City and County of the City of Chester.

ANNUAL REPORT

TO THE MAYOR, ALDERMEN, AND
COUNCILLORS OF THE CITY AND
COUNTY OF THE CITY OF CHESTER

OF THE

HEALTH OF THE CITY

In 1925,

BY

D. RENNET, M.B.E., M.D., D.P.H.,

Medical Officer of Health.

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City and County of the City of Chester.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1925.

1. Natural and Social Conditions of the Area.

1. Area (acres)	2862
Population (census 1921)	41030
Population (estimated, 1925)	41922
Number of inhabited houses (1921)	8447
Number of families or separate occupiers (1921)	8890
Rateable value	£248,226
Sum represented by a penny rate	£931

2. The Registrar General's estimate of the population of Chester in the middle of 1925 is 41,670, which is 60 less than in 1924. The average annual increase in our population for the previous four years has been about 230, so that the loss is about 290. The difference may be accounted for largely by that part of our population now occupying the Corporation houses in Heath Lane. The average size of the Chester family is 4·38, and if the 48 houses at Heath Lane had been occupied by the middle of the year 200 persons would be accounted for. Most of those houses were not occupied until late in the year, and it is probable that only about 100 of the loss can be accounted for in that way.

The Registrar General's estimate of our population, when compared to an estimate made locally, has been distinctly low for the past five years, with the single exception of 1924, when the two estimates agreed fairly closely. His estimates are based on the 1921 census as affected by the rate of natural increase as evidenced by the births and deaths for each year and by figures of emigration and immigration obtained from different sources. Taking the excess of births over deaths for the last five years, the natural increase in population is 1,381, or 276 per annum. The Registrar General's figures however, only allow for an annual increase of 128, so that apparently we lose about 150 per annum through emigration in excess of immigration.

The estimate of population given by the Registrar General has to be corrected locally for Chester residents resident in Institutions outside our boundary, and for non-residents in City Institutions. Making these corrections, the figure 41,690 becomes 41,922, which is taken as our population for 1925, and on which our birth-rate and death-rate are calculated.

3. Physical features and general character of the Area.

The position of Chester, on the estuary of the Dee, varying from 18 to 100 feet above ordinance datum and exposed to the breezes flowing up and down the valley, is pleasant and healthy. The soil varies from a light loamy clay in the lower parts to sand and rock on the higher ground. The residential part and the new and proposed building sites are sunny, open and airy. Unfortunately, much of the town is so closely built that its ventilation is by no means thorough, and its light obstructed by the smoke from its densely-packed chimneys. In parts of the town the density of houses reaches 40 per acre—in very striking contrast to the open sunny conditions in the new housing schemes. A policy for the future must be the opening up of the denser parts of the City—a policy which will require much thought and preparation.

There is a very considerable amount of overcrowding in the houses, which the building done since 1921 has not relieved. In 1921 the number of persons per house was 4·83, and in 1925 the number remains practically the same: 4·80. Those figures are obtained on excluding both the Heath Lane houses and their inhabitants. In 1921 we were more crowded than the other County Boroughs in Cheshire, with the exception of Birkenhead, as is shown by the following figures taken from the census returns, 1921.

	Rooms per person.
Birkenhead	1·01
Stockport	1·12
Wallasey	1·26
Chester	1·08

We were also rather more crowded than the Municipal Boroughs in Cheshire, whose average figure is 1·10 rooms per person. The relationship between the towns probably remains unchanged.

There were, in 1921, 8,447 inhabited houses (census returns), and 231 houses had been built in Chester up to the end of 1925, giving 8,678 at that date. In addition, 48 houses had been completed and occupied at Heath Lane, making 279 houses built for Chester inhabitants since 1921. As, however, the population now living at Heath Lane is lost to Chester, the houses cannot be claimed. Disregarding these houses, the position as to overcrowding remains the same as in 1921.

Chester is chiefly a commercial and residential town, the chief other occupation being that of workers in metal.

The more important occupations and their relative positions are shown in the following table, compiled from the census returns of 1921:—

Percentage of occupied person per total occupied persons of 12 years of age and upwards in different occupations (Chester, 1921).

Personal service	15·5 %
Commercial pursuits	12·2 %
Transport and communications	11·9 %
Metal workers	10·2 %
Clerks and draughtsmen	6·4 %
Shop assistants........................	6·0 %
Professional occupations	5·3 %

The subject of occupation and sickness will be gone into later, but the conditions locally are satisfactory on the whole.

Vital Statistics.

The births registered in the City during the year, with the necessary alterations for inward and outwards transfers, numbered 851, giving a birth-rate of 20·29. As in the rest of the County, the birth-rate in Chester is falling, but not so rapidly as in the County as a whole or in the smaller towns with which Chester should be classed. The present year's rate stands midway in the rates for the last five years, 1921 having had the highest and 1923 the lowest rates. The following table gives the rates for the last five years, and also the rates for England and Wales and for the smaller towns:

BIRTH-RATE.

Year.		England & Wales.		Smaller Towns.		Chester.
1921	...	22·4	...	...	...	21·63
1922	...	20·6	...	20·5	...	20·86
1923	...	19·7	...	19·8	...	19·22
1924	...	18·8	...	18·9	...	19·46
1925	...	18·3	...	18·3	...	20·30

Of the 851 births attributable to Chester, 39 were illegitimate. This rate is stationary, and considering the moral and physical overcrowding which at present exists it is satisfactory that it has not risen.

The deaths belonging to Chester, that is whether dying in or outside the City numbered 566, being equivalent to a death-rate of 13·5 per 1,000 living, which, when corrected for sex and age distribution, becomes 12·8. The equivalent rates for England and Wales and for the 157 smaller towns with which Chester is comparable, is given in the following table:—

Deaths per 1,000 of population in England and Wales, smaller towns, and in Chester for the years 1921-25.

	England & Wales.	157 Smaller Towns.	Chester.
1921	12·1	...	14·12
1922	12·9	11·7	13·79
1923	11·6	10·6	13·12
1924	12·2	11·2	13·76
1925	12·2	11·2	13·5

Although Chester's death-rate is uniformly above that for England and Wales and for the comparable smaller towns, yet the position is improving. It is very improbable that many of the smaller towns are handicapped by the density of population to the extent that Chester is, and under the circumstances the progress is satisfactory. When the rate for 1925 is corrected for age and sex distribution of the population it becomes 12·8 per 1,000, a considerable reduction.

Deaths according to age.

Infant Death-rate.

The infant deaths taking place during 1925 numbered 61, equivalent to an infant death-rate of 71·6 per 1.000 births. This is no less than 17·4 below the rate for 1924, and 14·6 below the rate for 1923.

The rates for the last five years are set out below:—

INFANT DEATH-RATE, 1921-1925.

	Chester.	England and Wales	157 Smaller Towns.
1921	88·26	83	...
1922	78·60	77	75
1923	86·2	69	69
1924	89·46	75	71
1925	71·6	75	74

In the last five years, Chester has generally been materially above the infant death-rate both for England and Wales and for the corresponding small towns. This year we are materially below the rate for both. The density of our population and the amount of overcrowding at present existing is not favourable to a low infant death-rate, and it is hardly to be expected that we can maintain this position.

A fuller view of the position is got from the following figures showing the infant mortality rates for Chester and England and Wales for the last fifteen years:—

INFANT MORTALITY per 1,000 BIRTHS.

	England & Wales.	Chester.
1911	130·	109
1912	94·8	98
1913	108·4	113
1914	104·6	91
1915	109·7	107
1916	91·2	91
1917	96·5	83
1918	97·2	89
1919	89·1	84
1920	79·9	69
1921	82·7	88
1922	77·	78
1923	69·	86
1924	75	89
1925	75	71

Until five years ago our infant death-rate compared favourably with that of England and Wales. We have failed, however, latterly to maintain the same rate of improvement.

Looking to the causes of death in this age group for some indication of where the fault lies, the following table has been drawn up comparing, for the last fifteen years, our infant death-rate from certain defined groups of diseases with the rate for England and Wales for the same diseases. The groups of diseases are (i) common infectious diseases, (ii) tuberculous diseases, (iii) diarrhœa and enteritis, (iv) developmental and wasting diseases, (v) bronchitis, and (vi) pneumonia. (See Table 9, Statistical Review, 1921 and 1924):—

Infant Death Rates per 1000 Births in England and Wales and in Chester from certain Groups of Diseases.

Year.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
I.—Eng. and Wales	7·68	7·78	5·71	6·95	9·00	5·22	5·73	7·94	2·75	4·20	3·63	5·25	4·24	3·94	*
Chester ...	5·3	*15·46*	9·56	6·48	8·13	2·33	4·03	5·37	1·31	0·00	*7·8*	4·62	*5·00*	3·67	7·05
II.—Eng. and Wales	3·81	2·81	3·02	2·86	2·88	2·39	2·75	1·94	1·61	1·47	1·54	1·39	1·36	1·36	*
Chester ...	2·23	2·21	*5·31*	*4·32*	1·16	2·33	2·68	1·34	0·00	0·95	*2·23*	0·00	*2·50*	*2·47*	0·00
III.—Eng. and Wales	36·20	7·72	19·32	17·40	15·14	10·58	10·30	9·54	8·72	7·98	13·79	5·57	6·82	6·32	*
Chester ...	25·50	4·40	*45·67*	17·29	*22·00*	*23·36*	4·03	*18·81*	*10·54*	*11·00*	*14·52*	*6·93*	*8·75*	8·57	5·87
IV.—Eng. and Wales	41·35	37·76	39·25	37·73	37·25	35·60	36·52	35·49	37·48	32·45	33·00	31·41	29·74	31·02	*
Chester ...	*43·54*	34·25	*40·38*	*45·40*	23·25	33·87	34·94	33·60	34·25	29·33	*34·65*	30·05	26·25	*31·86*	25·85
V.—Eng. and Wales	8·28	7·92	8·12	7·76	9·50	7·47	8·43	8·23	8·36	7·53	5·35	6·18	4·55	5·54	*
Chester ...	5.31	*14·36*	2·12	5·40	9·30	*8·17*	*9·40*	4·03	*9·22*	*10·99*	4·46	4·62	*6·25*	*17·15*	8·22
VI.—Eng. and Wales	9·89	9·98	10·80	10·43	13·50	9·84	11·44	12·12	10·52	9·84	9·43	11·89	8·98	12·54	*
Chester ...	*10·62*	9·94	6·37	8·64	*13·95*	9·34	4·03	10·75	10·54	5·49	7·81	*16·18*	*10·00*	6·12	5·87

* Figures for England and Wales not available.

From this table we find that in group (i) common infectious diseases Chester compares favourably with England and Wales, the rate being higher than that for the whole country on three occasions only in the 14 years of comparison. In the second group, that of tuberculous diseases, we are also favourably placed, only exceeding the rate for England and Wales on five out of the fourteen years. In the third group, that of diarrhœa and enteritis, we are unfavourably placed, exceeding the general rate on no less than ten out of the fourteen years. The improvement on the Chester rate has been marked, the average for the first five years of the period being 37·36 and for the last five 8·93; yet the improvement has not been so rapid as in the country as a whole. The deaths taking place from this group of causes are not the old summer diarrhœa class of case, but occur at all times of the year, and point rather to the broad question of infant feeding, the storing of food, its cleanliness, nature and preparation. Much attention is constantly given to this question, but it is evident more is required.

The unfavourable position of the infant death-rate in Chester seems largely due to this cause, as in all the other groups we are in a very favourable position. In the two remaining groups—bronchitis (v) and pneumonia (vi)—we occupy an average position as regards the first and more favourable in the last. In considering those Chester death-rates it is necessary to remember always the smallness of our figures; an addition of one infant death means an increase in the rate of 1·17 per 1,000.

The most frequent causes of death in the year were whooping cough, 6; convulsions, 7; bronchitis, 7; pneumonia, 5; diarrhœa, and enteritis, 5; and developmental diseases, 22.

Considering the next age group—over 1 year and under 5 years—we find as the chief causes of death during the last five years tuberculous diseases: chiefly meningitis; infectious diseases: chiefly whooping cough and respiratory diseases; bronchitis, 12; pneumonia, 36; other respiratory diseases, 15. In the year under review the chief causes were pneumonia and whooping cough. The death-rate per 1,000 living at this age was 9·68 in 1925, substantially the lowest in the last five years. The rates were as follows:

Death-rates in the age group 1-4 for five years, 1921-1925.

Year.	1921.	1922.	1923.	1924.	1925.
Rate ...	13·71	10·61	10·35	16·30	9·68

The high rate for 1924 was due to influenza in epidemic form in the spring of that year.

In the school age group—5 years and under 15 years—there were, during the past five years, 16 deaths from tuberculous disease, 9 being from disease of the lungs. Acute rheumatism claimed 4 lives and heart disease 6. Pneumonia caused 7 deaths and the common infectious diseases 6. During 1925 there were three deaths from tuberculous lung disease and one case of meningitis. The rates for the last five years are given below, and show a gradual fall:—

Year.	1921.	1922.	1923.	1924.	1925.
Rate ...	2·00	2·66	1·59	1·84	1·71

I have no convenient figures for comparison.

In the age group—15 to 45 years—the chief causes of death during the last five years have been tuberculous lung disease, 126 deaths; heart disease, 29; pneumonia, 30; cancer, 29; and deaths from violence, 19. In 1925 the deaths from these causes numbered 16 from tuberculous lung disease, 6 from heart disease, 8 from pneumonia, 9 from cancer, and 7 from accident. The death-rates calculated on the population at those ages are, for the respective years, as follows:—

Year.	1921.	1922.	1923.	1924.	1925.
Rate ...	5·44	4·34	4·22	3·60	3·84

The rate shows a fairly steady fall at this, the most useful period of life.

Between the ages of 45 and 65 years the chief causes of death are cancer, heart disease, tuberculous lung disease, bronchitis and disease of the kidneys, cancer being by far the most common cause. The deaths from heart disease also increase as age advances, as also diseases of the kidneys. At this age period, during 1925, there were 14 deaths from phthisis, 34 from cancer, 27 from heart disease, 15 from bronchitis, and 9 from kidney disease. The death-rates per 1,000 living for the last five years are as follows:—

Year.	1921.	1922.	1923.	1924.	1925.
Rate ...	17·78	18·02	16·32	19·06	21·93

As the average duration of life increases the rate at the more advanced ages increases.

At the ages 65 years and over, cancer, heart disease and bronchitis are the chief causes of death, heart disease and bronchitis having both increased markedly. In 1925 there were 207 deaths at those ages, 20 having been caused by cancer, 38 by heart disease, 25 by bronchitis.

The group death-rates are given below:—

Year.	1921.	1922.	1923.	1924.	1925.
Rate ...	114·53	123·11	126·73	125·57	118·89

The figures show a marked increase, hardly affected by the slight drop in 1925.

For convenience of examination the group death-rates are given together.

	Year.				
Group.	1921.	1922.	1923.	1924.	1925.
0–1 ...	88	78	86	89	71
1–4 ...	13·71	10·61	10·35	16·30	9·68
5–15 ...	2·00	2·66	1·59	1·84	1·71
15–45 ...	5·44	4·34	4·22	3·60	3·84
45–65 ...	17·78	18·02	16·32	19·06	21·93
65 + ...	114·53	123·11	126·73	125·57	118·89
All ages	14·12	13·79	13·12	13·76	13·5

From a review of the death-rates of age groups the least satisfactory feature is the comparative slowness in the decline of the infant death-rate. During the five years it has declined six per cent. (taking two year averages) in England and Wales, and in Chester only 3·6 per cent. The general death-rate on the same basis has fallen somewhat quicker in Chester than in the whole country—2·68 per cent. as compared with 2·4 per cent.

In the following table are given the death-rates from the common infectious diseases, and the chief causes of death for the last five years, together with the average for those years and the average for the five previous years. Where possible, I give the corresponding figures for England and Wales in brackets, for comparison:—

Disease.	1921.	1922.	1923.	1924.	1925.	Average Rate 1921-1925.	Average Rate 1916-1920.
Enteric	0·00 (·02)	0·02 (·01)	0·00 (·01)	0·00 (·01)	0·00 (·01)	0·00	0·02
Measles	0·00 (·06)	0·17 (·15)	0·02 (·14)	0·26 (·12)	0·00 (·13)	0·09	0·09
Scarlet Fever	0·02 (·03)	0·00 (·04)	0·00 (·03)	0·02 (·02)	0·02 (·03)	0·00	0·00
Whooping Cough ...	0·31 (·12)	0·02 (·17)	0·19 (·10)	0·04 (·10)	0·26 (·15)	0·16	0·13
Diphtheria	0·09 (·13)	0·07 (·10)	0·04 (·07)	0·02 (0·7)	0·02 (0.6)	0·05	0·07
All common infectious diseases	0·43 (·34)	0·29 (·47)	0·28 (·35)	0·35 (·31)	0·31 (·39)	0·30	0·31
Influenza	0·16 (·24)	0·53 (·56)	0·12 (·22)	0·14 (·49)	0·19 (·32)	0·23	—
Pulmonary tuberculosis	1·18 (·88)	0·93 (·89)	1·00 (·84)	1·12 (·84)	0·93	1·03	1·19
All tuberculous diseases	1·47 (1·13)	1·20 (1·12)	1·32 (1·06)	1·38 (1·06)	1·07	1·28	1·56
Cancer	1·59 (1·21)	1·27 (1·23)	1·29 (1·27)	1·59 (1·29)	1·52	1·45	1·34
Heart disease	1·20 (1·42)	1·03 (1·57)	1·41 (1·48)	1·45 (1·56)	1·72	1·36	1·31
Bronchitis	0·96 (·89)	1·68 (1·07)	1·29 (·85)	1·33 (·97)	1·21	1·29	1·42
Pneumonia	0·86 (·92)	1·32 (1·07)	·77 (·87)	1·19 (1·00)	0·73	0·97	1·63

As regards infectious disease as a whole, the most serious epidemics were of whooping cough in 1921 and 1925, of measles in 1924. These two diseases are responsible for an average rate in the last five years of 0·25, compared with 0·05 for scarlet fever and diphtheria together. For this reason and in the hope of saving a few lives rather than with the expectation of controling epidemics, application was made to the Ministry of Health to make measles and whooping cough compulsorily notifiable. An Order to that effect was obtained, which came into force on January 1st in the current year. Opportunity was taken during 1925 in connection with school medical work to conduct a competition for the best essays on the diagnosis, dangers and treatment of these two diseases, which roused a very wide interest. Leaflets setting out the dangers and best methods of treatment have been widely distributed. Arrangements have been made that every notified case shall be visited, a leaflet given, and where necessary an offer of help made. Arrangements have also been made so that serious or complicated cases may be treated in the Isolation Hospital.

The other infectious diseases have not showed great prevalance, although scarlet fever has been more commonly met with in 1925 than in the previous four years. These notifiable diseases will be discussed when considering the "notifications."

Cancer.—The cancer death-rate shows the expected tendency to rise, and the average rate for 1921-26 is 0·11 per 1,000 above the average for the previous five years. The true rate of increase, however, is almost certainly less than this, as the number of persons living at ages liable to develop cancer is constantly increasing. That the death-rate experienced at present could be reduced is certain, although there is yet no knowledge of the actual cause of cancer, and no medical remedy, yet the science and art of surgery has so increased in efficiency that provided treatment is sought early one can confidently expect 80 per cent. of cures. There is yet little basis for preventive action, but it is known that long-continued irritation is an almost constant precedent. Any soucre of such irritation should therefore be remedied early. A decayed tooth or badly-fitting denture irritating the mouth, badly-fitting stays irrittating the breasts, habitual constipation irritating the bowel and poisoning the system, may all be precedent causes of cancer. To the extent that such sources of irritation can be prevented, cancer can be prevented. In treatment, early diagnosis and action are essential to success, therefore seek advice on a mere suspicion; if one's fears are illfounded the relief will be the greater, while if true there is every hope of recovery.

The death-rate from cancer is unfortunately higher in Chester than in the country as a whole, but the rate of increase is considerably slower. Heart disease is also showing a slight increase more noticeable in the last three years than formerly. To a certain extent one can both look upon heart disease as a mode of death rather than a disease causing death. The heart muscle simply gets worn out. More than half the deaths from this cause take place in ages 65 years and over, and many of the deaths are certified as from degenerative changes, so that an increase may not be unnatural.

Although the rheumatic fever deaths in the last five years bears no relation to the deaths from organic heart disease in the same period, it is interesting to give them. There does not appear to be any tendency to increase although the rate for 1925 was exceptionally high.

DEATH-RATES FROM RHEUMATIC FEVER.

Year.	1921.	1922.	1923.	1924.	1925.
Rate ...	0·09	0·02	0·09	0·07	0·14

The rate for bronchitis tends to fall in Chester, there being a lower rate for the five years, 1921-1925, than for the five years, 1916-1920. The rate for 1925 was below the average. Compared with all England and Wales, however, our rate is uniformly higher. In this, as in the case of organic heart disease, a large proportion of the deaths are of persons of 65 years and over. The explanation of our high rate is not the existence of dusty occupation, but is probably in part climatic.

Pneumonia also shows a lower rate in recent years, the average for 1921-1926 being 0·66 below the average for the five preceding years. Our rate is also commonly lower than that for England and Wales. In 1925, the Chester rate was the lowest we have had in recent years.

Notifiable Diseases during the year 1925.

The following table gives the number of notifications received of various notifiable diseases during the year—according to the age of the patient; deaths in brackets ( ):—

NOTIFIABLE DISEASES DURING THE YEAR 1925 (Deaths in Italics).

DISEASE.	Under 1 year.	1 and under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 10.	10 and under 15.	15 and under 20.	20 and under 35.	35 and under 45.	45 and under 65.	65 and over.	Total cases.	Cases admitted to Hospitall
Small Pox	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diphtheria	0	0	1 *(1)*	1	2	5	10	2	1	2	0	0	24 *(1)*	22
Scarlet Fever	0	2	3	4	7	44	36 *(1)*	11	6	3	1	0	117 *(1)*	108
Enteric Fever	0	0	0	0	0	0	2	0	1	0	0	0	3	0
Pneumonia	13 *(5)*	11 *(7)*	5	2 *(2)*	0	10	4	6	9 *(4)*	9 *(4)*	11 *(5)*	5 *(4)*	85 *(31)*	21
Erysipelas	0	0	0	0	0	1	1	0	2	1	6 *(1)*	2	13 *(1)*	0
Puerperal Fever	0	0	0	0	0	0	0	0	5 *(2)*		0	0	5 *(2)*	5
Acute Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chicken Pox	4	6	7	11	23	231	28	1	3	0	0	0	314	0
Malaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophthalmia Neonatorum ...	7	0	0	0	0	0	0	0	0	0	0	0	7	3
Encephalitis Lethargica ...	0	0	0	0	0	0	0	0	0	2 *(1)*	2 *(1)*	0	4 *(2)*	0

Diphtheria has shown a gradual decrease in numbers during the five years, so much so that the notifications in 1925 were only one-fifth of those in 1921. The type of case varies considerably in virulence, and at times we find a considerable proportion of the patients affected with some form of temporary paralysis. Whatever the virulence of the disease may be the controling factor for safety is early diagnosis and treatment. Antitoxin can be had free from the Public Health Department by any medical man for use in a necessitous case, but the privilege is seldom used. The early examination and report on swabs sent enables patients to be sent to hospital without much delay, but in cases of doubt the immediate use of antitoxin without removal would be an advantage.

It is now possible by the Schick test to determine who are susceptible to diphtheria and who are not, and to take the further step of rendering the susceptible individuals insusceptible. It has been found that infants are born with a considerable degree of resistance to this disease, but that by the end of six months almost all are highly susceptible. From this age until over school age roughly about 80 per cent. are susceptible, and then a certain degree of insusceptibility is attained probably through repeated small infections, or through having suffered from the disease. In view of these facts, the general practice is not to apply the Schick test to children under 12 or 15 years, but to proceed at once to their immunisation. This is done by giving three graduated injections of a mixture of toxoid-antitoxin of diphtheria at weekly intervals when a very high degree of insusceptibility develops in the patients within a short period. In the case of older persons, the Schick test is first used, and in those only who show susceptibility to the disease is immunisation proceeded with. The test and immunisation are both quite safe, and cause very little if any disturbance. Should diphtheria again increase in prevalence it is a procedure which ought to be used.

Scarlet Fever has been more prevalent during 1925 than in the two preceding years, and about the same as in 1921 and 1922. It has not, however, reached epidemic prevalence during the period, and there were only 117 cases in 1925. For some years back the type of disease has been very mild, and in many cases presented extreme difficulty in diagnosis. There has always been, however, a certain proportion of severe toxic or septic cases, and in 1925 the majority of cases have been fairly well marked; and in many with somewhat septic throats. The unhealthy condition of a considerable proportion of throats certainly adds to the risks of complications if it does not increase the risk of infection.

As in the case of diphtheria, it is now possible to determine who are and who are not susceptible to the disease. While the Dick test for susceptibility is reliable and harmless the further step of satisfactory immunisation has not yet been worked out, and until that is done its full usefulness will not be obtained.

Enteric Fever was notified three times during the year. Two of the cases in one family evidently were infected together, and in all probability at a show where they indulged in an *alfresco* lunch.

In the third case the source of infection could not be traced.

The thirteen cases of *Typhoid Fever* notified during the five years include two cases of paratyphoid B. and one of paratyphoid A.; and one of the cases was contracted while nursing a case of the disease. It has not been possible to fix the source of infection with any certainty in any of the cases. The probability in some of the cases pointed to outside infection. For instance, the date of infection co-inciding with a rare visit to some outside town and the home diet unvaried, or a person accustomed to take long cycle rides and lunch on "pies or anything" got at some wayside shop. In one case the patient was brought home to Chester ill with typhoid from the town in which she worked. We have only had sporadic cases of unknown origin during the last five years.

Pneumonia.—During 1925 there were 85 cases of pneumonia notified and 31 deaths registered from the same cause. The figures suggest that the notification is not particularly well carried out, although much better than two or three years ago, when a large number of the cases were only brought to our notice by the death registration. The number of deaths occurring annually from this cause is very constant—from 30 to 36—with the exception of the year 1922, when the number rose to 55 owing to the prevalence of influenza. Most of the deaths occur in the first two years of life, and are frequently associated with overcrowding or close and badly ventilated dwellings. Better housing conditions if associated with a greater appreciation of fresh air would do much to save many of those lives.

Puerperal Fever.—In 1925, five case of this disease were notified, with two deaths. In one case the illness commenced antepartum, and death was almost certainly not due to puerperal fever. In another, admitted to the Isolation Hospital, the temperature was normal, and there were no signs, local or otherwise, of this illness. The true cases were, therefore, probably three, with one death.

Reference to the table on page 21 shows that Chester compares favourably with other English County Boroughs, having a lower notification rate in each of the five years, with the exception of 1925, and that rate does not represent the actual facts in Chester. On the notification of a case of this disease full enquiry is made, and the midwife and her clothing and apparatus are disinfected before she returns to duty.

Acute poliomyelitis was not notified during 1925, and only three cases notified in the previous four years. That other cases have occurred we know from meeting the after-effects in the form of paralysis. These cases—the after-effects—are now taken to the orthopædic clinic, and at an earlier stage than they were formerly dealt with. The difficulties of diagnosis are very great, and in many cases probably a physician is not called in during the brief acute stage. The benefit of early suitable treatment for the resulting paralysis is very great, and it is to be hoped that cases met with will be sent to the orthopædic clinic as early as possible. The acute stage may be treated at the Isolation Hospital.

In view of the prevalence of smallpox in various parts of the country, *Chickenpox* was made compulsorily notifiable in 1923, in which year 15 cases were notified. Since then the numbers have steadily increased, and 314 cases came to our notice in 1925. Practically every case is seen after notification, a work of supererogation in many cases, but the risk of overlooking smallpox is so great that it is considered better to divide responsibility. I have to thank the members of the medical profession for cordially agreeing to their patients being visited. The sharing of responsibility is an extra safequard for all concerned.

Ophthalmia neonatorum.—There were seven notifications of ophthalmia neonatorum during the year. These evidently include cases with only slight discharge, and coming on as late as the tenth day. Only one of the cases was at all severe, which was treated at the Infirmary and made a good recovery. During the five years, 24 cases have been notified, the majority of which have been verified by microscopical examination. All cases have made a good recovery without apparent injury to vision. Where the diagnosis has been confirmed the mother has been advised to attend the Infirmary to prevent a repetition of the occurrence, but an improvement in the incidence of this condition will have to wait for a greater knowledge of venereal disease and more satisfactory treatment of this particular one.

Encephalitis lethargica was notified four times during the year. In none of the cases could a definite source of infection be found. One case had been visited by a seafaring friend about a week before her illness, but there was no history of the visitor having been ill. In another the occupation entailed contact with a large number of people, but again no case of illness could be found. In another case the patient died very soon after confinement, and it then transpired that she had been suffering for some days before from symptoms strongly suggestive of encephalitis. In the fourth case the diagnosis was made from the after-effects, the original illness having been disregarded at the time.

Smallpox was notified once during the five years under review. The patient had been ailing for some weeks from an undefined ailment, and had been travelling in the Midlands. He succumbed very early in the attack, doubtless in part due to his ailing condition. All contacts were vaccinated and other precautions taken, and no further case occurred.

The position as to infectious disease has been satisfactory during the five years, and we compare favourably with the rates for the English County Boroughs, as is shown in the following table:—

Rates per 1,000 of population of certain notifiable diseases in Chester, and the aggregate of English Boroughs, for the years 1921-25. (For the year 1925, the comparison is with England and Wales as a whole).

		Diphtheria.	Scarlet Fever.	Enteric Fever.*	Puerperal Fever.	Erysipelas.
1921	Chester	2·89	2·80	·05	·05	·12
	English Boroughs...	1·50	3·49	·08	·08	·41
1922	Chester	2·24	3·23	·02	·05	·17
	English Boroughs...	1·14	3·18	·05	·08	·43
1923	Chester	0·84	1·78	·05	·02	·24
	English Boroughs...	1·04	2·67	·07	·08	·39
1924	Chester	1·19	1·85	·12	·05	·19
	English Boroughs...	1·11	2·47	·09	·08	·40
1925	Chester	0·6	2·81	·07	·12	·30
	England & Wales ...	1·23	2·31	·07	·06	·39

*Including for Chester the paratyphoids.

Compared with other County Boroughs, Chester shows rather more than average prevalance of diphtheria in two of the five years, and in scarlet fever only once. In enteric fever we are below the borough rate in four years out of the five; in puerperal fever we exceed the rate once; and, as has been explained above, the rate for that year is raised by the inclusion of two doubtful cases.

Tuberculous Diseases.—Cases of tuberculous disease coming to the notice of the department for the first time during 1925 are given in the following table, together with the deaths occurring in the year:—

TUBERCULOSIS, 1925.

Age Periods.	NEW CASES.				DEATHS.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	Males	Females.	Males.	Females	Males.	Females.	Males.	Females.
Under 1 ...	0	0	0	0	0	0	0	0
1 to 5 ...	0	0	2	1	1	2	1	2
5 to 10 ...	0	1	4	1	1	2	0	0
10 to 15 ...	1	2	3	2	0	0	1	0
15 to 20 ...	5	1	0	0	0	1	0	0
20 to 25 ...	3	2	0	1	1	0	1	0
25 to 35 ...	9	3	0	0	2	2	0	1
35 to 45 ...	4	6	0	0	8	2	0	0
45 to 55 ...	3	3	0	0	6	2	0	0
55 to 65 ...	1	1	0	0	4	2	0	0
65 and upwards	0	0	0	0	2	1	0	0
Totals ...	26	19	9	5	25	14	3	3
1925	45		14		39		6	
1924	47		22		47		11	
1923	54		28		42		13	
1922	34		24		39		11	
1921	54		28		49		12	
1920	48		14		28		8	
1919	50		9		46		7	
1918	65		23		56		12	
1917	82		23		53		26	
1916	56		15		52		17	

The number of notified cases of pulmonary tuberculosis for 1925 was the lowest, with one exception, for the last ten years, and was also the lowest, with one exception, for the non-pulmonary type of disease.

A truer representation is given by the figures in the next table, stating the rates of notifications and deaths per 1,000 living, and comparing them with the rates for England and Wales:—

Notifications and Death-rates—Pulmonary and Non-Pulmonary Tuberculosis—England and Wales, and for Chester, 1916-1925.

Year.	NOTIFICATIONS.				DEATHS.			
	Pulmonary Tuber.		Non. Pulmon. Tub.		Pulmonary Tuber		Non. Pulmon. Tub.	
	E. & W.	Chester,	E. & W.	Chester.	E. & W.	Chester.	E. & W.	Chester.
1925		1·07		0·33		·932		0·14
1924	1·47	1·11	0·48	0·52	0·84	1·12	0·22	0·26
1923	1·49	1·29	0·48	0·67	0·84	1·00	0·23	0·31
1922	1·47	0·82	0·43	0·58	0·89	0·94	0·23	0·26
1921	1·57	1·30	0·42	0·67	0·88	1·18	0·24	0·29
1920	1·65	1·12	0·42	0·33	0·87	0·65	0·26	0·18
1919	1·18	1·22	0·47	0·22	0·99	1·12	0·28	0·17
1918	2·17	1·61	0·58	0·57	1·30	1·39	0·36	0·29
1917	2·18	2·03	0·66	0·57	1·21	1·31	0·39	0·64
1916	2·10	1·40	0·69	0·37	1·15	1·30	0·37	0·42

While the rate of notification of pulmonary tuberculosis in Chester is generally below that for England and Wales, the death-rate is generally higher. The death-rate in both cases is falling, but the rate of decrease is twice as fast in England and Wales as it is in Chester. The comparison between the rate in Chester and in some other County Boroughs of approximately the same size shows us in a slightly better light.

	Pulmonary Tuberculosis.			Non-Pulmonary.		
	1923.	1924.	1925.	1923.	1924.	1925.
Burton-upon-Trent ...	0·906	0·785	...	0·22	0·22	...
Lincoln ...	0·732	0·898	...	0·19	0·31	...
Norwich ...	1·04	1·02	...	0·17	0·21	...
Warrington ...	1·16	1·29	...	0·28	0·11	...
Chester ...	1·00	1·12	0·932	0·31	0·26	0·14

Our rates for the last three years are about the average of these County Boroughs.

The rates of notification given in the first of these tables suggest what we know is the case—that is, that the cases are not all notified. Frequently the doctor in attendance at the time of death is not the first who has attended him, and naturally supposes he has been notified before. Any medical man who finds that such a patient has not been in communication with the Public Health Authority can generally suppose that he has not been notified. The importance of early diagnosis and notification is always important, and is all the more so now that institutional treatment can be provided for most of the patients.

DEATH-RATES IN WARDS.

The death-rates in the different wards of the City have been given for the last two years, and the following table gives the rates for 1923, 1924 and 1925:—

Death-rates in Wards per 1,000 living.

	1923.	1924.	1925.	Rooms per person, 1921,
St. John's	13·5	14·15	16·71	1·19
St. Mary's	13·4	15·43	15·44	1·18
St. Oswald's	12·7	13·70	14·33	·98
Boughton	12·4	13·20	12·18	·99
Trinity	12·9	13·16	11·74	1·19
Chester	13·12	13·76	13·5	1·08

Those figures are based on the assumption that the proportion of population in the various wards has remained the same as in 1921. St. Mary's and St. John's wards have occupied the worst position in all three years, while Trinity has been best twice. For interest, the proportion of rooms per person in the different wards is also given, and it will be seen that the wards with the highest and lowest death-rates have the highest proportion of rooms per person; while the ward with the lowest proportion has consistently kept a middle place in the death-rate. Both St. John's and St. Mary's wards contain many bad courts and patches of congested building, where the rooms per person must be under one, but they also contain districts of better class property, where the rooms per person is considerably over one. There is one congested district in Trinity ward, but the most of it is good and open. In Boughton and St. Oswald's there is comparatively little that is very bad, but little that is very good. The average number of rooms per person is not a reliable guide to the healthfulness of a district.

The amount of Poor Law Relief.

The amount of Poor Law out-door relief has been greater in 1925-26 than in any of the previous four years. The figures, for which, along with the following information, I am indebted to Mr. G. S. N. Hull, are as follows:—

OUT-DOOR RELIEF.

1921–22	£10,198
1922–23	£10,988
1923–24	£9,740
1924–25	£10,260
1925–26	£11,313

The amount of indoor relief has remained about the same during the five years, but there is an increasing use being made of the well-equipped hospital.

The number of inmates at the Institution during the last five years is as follows:—

	House.	Hospital.	Total.
1922	127	135	262
1923	135	117	252
1924	124	131	255
1925	111	155	266
1926	121	156	277

There is an increasing use made of the Institution as a maternity home. During 1925, twenty-four maternity cases were dealt with, and during the first quarter of the current year nearly half that number has been admitted.

Increasing use is made of Residential Nursing Institutions as is shown in the following table, which gives the number of deaths and the percentage of total deaths of Chester residents taking place in such Institutions:—

Deaths of Chester Residents in Residential Institutions (including Chester Union), 1921-25.

	Number of Deaths.	Percentage of Total Deaths.
1921	167	28·5
1922	167	29·2
1923	163	29·8
1924	193	33·4
1925	198	34·9

Apart from the influenza epidemic of 1922, 1923, which Chester experienced with the rest of the country, there has been no special cause of sickness in the City during the last five years. The ordinary infectious diseases have not been unduly prevalent, and apart from mild influenza or influenzal colds which have been common since the epidemic, there has been no prominent cause of sickness.

General Provision of Health Services in the Area.

Tuberculosis.—For the purpose of treatment of tuberculous diseases the Local Authority have made the following arrangements and provisions. In the Cheshire Joint Sanatorium the City is allotted 6 beds—3 for male patients and 3 for female. On the completion of the building, which is expected this year, this figure will be increased to 8. On the opening of the Sanatorium, the six beds proved adequate, but during last year, partly owing to patients being kept much longer in the Institution and partly owing to a greater willingness of patients to accept institutional treatment, it has been necessary to send one or two patients elsewhere so as to avoid long delay in treatment. The eight beds at Burntwood will be fully used when available.

For more advanced cases of pulmonary disease, 26 beds are provided at the Pavilion, Sealand. Six of these beds are let to the County Authority, and the City have seven beds for male patients, five for female, and eight for children—20 in all. The eight beds for children are used for such conditions as tuberculous skin disease, abdominal tuberculosis, and such tuberculous bone diseases as do not require special treatment, or after they have received such treatment. There are no beds available for pulmonary disease in children, and a proposal to provide such beds at Burntwood has been abandoned. If, as is likely, the Sphalinger treatment for tuberculosis bears out its promise, the beds provided should be sufficient.

Non-pulmonary tuberculosis, so far as they require special apparatus or treatment, are sent to the Shropshire Orthopædic Hospital. There is no agreement entered into with this Institution: we may send what suitable patients we have, and we have not to wait for admission.

2. *Maternity.*—Until 1925, the only provision for maternity cases was one bed in the home of the Chester Benevolent Institution. This was sufficient to show the need of providing greater facilities, and in September, 1925, the Chester Maternity Hospital was opened under the auspices of the Benevolent Institution. It is centrally situated in Whitefriars, contains eight beds (two in private wards), an isolation room, etc. It is very well equipped, attended by medical men in rota, and is also recognised as a training centre for midwives. The Local Authority provided £1,000 towards the purchase, and have entered into an agreement for the payment of £4 10s. per week for each of two beds for the use of necessitous cases. During the three and a half months the Hospital was open, seven necessitous cases had been admitted.

3. There is no special hospital for children in Chester. In the Chester Royal Infirmary there is a children's ward for 6 beds and 20 cots, properly equipped and fully occupied.

4. The accommodation provided for fever patients is at Sealand Isolation Hospital, about a mile and a half from the centre of the City. The hospital consists of an administrative block and four blocks of wards for infectious diseases. Each block contains 16 beds for adults, differently divided for the sexes. There is also a power-driven laundry. a disinfecting station, and a mortuary, as well as accommodation for ambulances.

In a field adjoining the hospital is the Pavilion, containing 26 beds for the treatment of tuberculous diseases already described. The administrative block has proved, in recent years, too small for the necessary staff, and there is at present a proposal on foot for considerable additions. This has been rendered necessary by the institution of the beds for tuberculous diseases, and also by the fact that additional staff was required to provide much-needed off-duty time for the nurses.

5. A smallpox hospital is provided about half a mile distant from the Isolation Hospital. Here there are two wards, with five beds each. Sleeping accommodation for staff, kitchen and offices. The hospital is self-contained, and is in telephonic communication with the main Hospital.

The Isolation Hospital and the Smallpox Hospital are provided and maintained by the Local Authority, who is, however, under an obligation to take patients from neighbouring rural Authorities.

The accommodation has proved sufficient.

During 1925, 272 patients were admitted to the Isolation Hospital, and of those, 193 belonged to the City and 79 to outside districts. Of the 193 City cases, 32 were cases sent to the cleansing station there, the other 161 being cases of scarlet fever, diphtheria, puerperal fever, whooping cough, and tuberculous disease. There were twelve deaths during the year—7 from tuberculous disease, 3 from scarlet fever, 1 from diphtheria, and 1 from puerperal fever.

The following table sets out the admissions to Hospital during the year:—

	Tuberculous Diseases.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Puerperal Fever.	Whooping Cough.	Other.
Chester City	24	108	22	...	3	2	34
County	10	...	...	...	...	...	...
Chester R.D.C.	...	28	8	...	...	...	...
Hoole	...	7	1	...	...	...	...
Tarvin and Malpas	...	8	5	...	...	...	1
Holywell	...	2	...	...	...	...	...
Flint	...	1	1	5	...	...	...
Ellesmere Port	...	...	1	...	...	...	...

The total number of patients admitted in the last five years were as follows:—

	1921	1922	1923	1924	1925
Scarlet Fever	178	160	107	109	155
Diphtheria	172	109	54	64	38
Enteric Fever	5	2	13	17	5
Puerperal Fever	...	...	...	...	3
Whooping Cough	...	...	...	...	2
Measles	...	...	...	...	...
Poliomyelitis	...	1	...	...	...
Tuberculous Disease	42	31	27	37	34
Other Conditions	13	56	21	9	35

6. Other hospitals in the area are the Chester Royal Infirmary and St. James' Hospital (under the management of the Chester Poor Law Authorities). The Chester Royal Infirmary has accommodation for 206 beds, but it has been necessary to use some of the smaller wards for administrative and laboratory purposes, so that 166 beds only are in use. These beds are fully occupied, and there is commonly a waiting list of about 50. The Institution serves a very wide area, and is made increasing use of, the numbers admitted during the last five years being as follows:—1,944, 1,676, 2,033, 2,191, 2,507. There is also, housed in the Infirmary, the John Elliot Laboratory, fully equipped and made full use of not only for Infirmary work but also for the examination of specimens sent by outside practitioners.

The Local Authority has contracted with the Infirmary for the surgical treatment of tonsils and adenoids and also for the correction of visual errors in school children, for which £150 a year has been paid. The venereal disease treatment centre is also stationed at the Royal Infirmary. The scheme for the treatment of these diseases is a joint one between the City of Chester and the Counties of Flint and Denbigh, payments being made in proportion to user.

LIST OF ADOPTIVE ACTS, BYE-LAWS AND LOCAL REGULATIONS IN FORCE IN THE DISTRICT.

Public Health Acts Amendment Act, 1890.
Infectious Diseases (Prevention) Act, 1890.
Public Health Acts Amendment Act, 1907, Sections 80, 81 and 85 to 91, inclusive.
Notification .of Births Act, 1907.
Public Health (Prevention and Treatment of Diseases) Act, 1913.
Public Health (Tuberculosis) Act, 1921.
Public Health Act, 1925, except Sections 17, 18, 19, 20, 34 and 56.
Rats and Mice (Destruction) Act, 1919.
Baths and Wash Houses Act, 1907.
Private Street Works Act, 1892.
Public Improvements Act, 1860.
Chester Improvement Acts, 1845, 1884.
Bye-laws as to Obstructions, Encroachments and Nuisances, 1879.
Bye-laws under the Dairies, Cowsheds, and Milkshops Order, 1885, 1904.
Bye-laws for the Regulation of Slaughter-houses, 1909.
Bye-laws for the Regulation of Slaughter-houses provided by the Council, 1925.
Bye-laws for the Regulation of Common Lodging-houses, 1909.
Houses and Parts of Houses Let in Lodgings Regulations, 1867.
Bye-laws in respect of Nuisances, 1887.
City of Chester (Measles and Whooping Cough) Regulations, 1925—S.R.O., 1925, No. 1130.

There are no institutional arrangements specially arranged for unmarried mothers, illegitimate infants and homeless children, but increasing use is being made of St. James' Hospital by the unmarried mother, and she is eligible also for admission to the Chester Maternity Hospital.

AMBULANCE FACILITIES.

(*a*) At the Isolation Hospital, two ambulances are used for the transport of infectious cases, and (*b*) at the Fire Station, being centrally situated, two ambulances are maintained by the Local Authority for non-infectious illness and cases of accident. These are available day and night at a small charge.

CLINICS AND TREATMENT CENTRES.

The centres of this nature are as follows:—

Name.	Situation.	Provided by
1. Maternity & Child Welfare Centre	Princess Street ...	Local Authority.
2. School Clinic and Inspection, and	Princess Street ...	,, ,,
B. Treatment;	,, ,, ...	
C. Dental Clinic	,, ,, ...	,, ,,
3. Tuberculosis Dispensary...	St. John Street ...	,, ,,
4. Treatment Centres for Venereal Disease ...	Chester Royal Infirmary	Local Authority jointly with Flint and Denbigh.
5. Orthopædic After - Care Clinic	St. John Street ...	Cheshire Committee for Orthopædic after care.

The Maternity and Child Welfare Clinic meets twice a week, on Mondays and Thursdays, at premises in Princess Street provided jointly for this and School Clinic work. There is a large common waiting room and a separate weighing room, and doctor's consultation room. The work of the clinic has developed considerably in the past five years, both in the number of babies brought and the attendances made, but there has always been and still remains a rooted objection on the mother's part to have her baby weighed. This objection largely discounts the value of the work done. Without regular weighings it is not possible to form a reliable estimate of an infant's progress and to detect slight departures from normal which ought to be corrected if the best preventive results are to be obtained. For some years back persistent pressure has been brought to bear on the mothers to overcome this objection, and with some, but it must be confessed a disappointing amount of improvement. In spite of this failure to attain the best methods of work, the clinic is doing a great deal of useful work in so far that a number of children are seen and weighed regularly, and that the mothers receive instruction in questions of hygiene, domestic economy and housewifery. The Central Authority, however, insists that all infants and children attending are to be weighed and seen by the doctor at stated intervals, a policy that, however advisable theoretically will reduce, in practice, the numbers attending to nearly the vanishing point, and will save nothing. Our progress towards their goal was doubtless slow, but it was progress, and we were able to supervise a large number of children, if not with meticulous scientific care, still a large number.

Arrangements are being made to conduct the clinic on the lines wished, and every endeavour will be made to get the best results.

During the past five years there has been a steady improvement in the numbers both of infants and expectant mothers wishing to see the doctor in attendance—not for purposes of treatment but for advice and guidance.

During the year the following work was done at the clinic:—

	Consultations.
First visits of infants (under 12 months)	223
Subsequent visits	118
Children 1–5—first visits	117
Subsequent visits	96
Expectant mothers—first visit	78
Subsequent visits	44
Total number of consultations for 1925...	676

The Health Visitors visit, on about the tenth day, all infants born, except those notified as not requiring a visit. During the year there were 910 births notified, and of these 889 were regularly visited.

In the visiting of infants, making enquiries into the cause of still-births, or the cause of infant deaths, and the general supervision of child life and the health of mothers, the Nurses made the following visits:—

HEALTH VISITORS' REPORT.

Total number of birth notifications during the year (of this number, 38 were notified late, 24 by doctors, and 14 by midwives)	910
Cases attended and delivered by doctors	124
Cases attended and delivered by midwives ...	786
Number of still-births	32
(Midwives' cases, 29; Doctors' cases, 3).	
Primary birth visits	796
Return visits	2044
Visits of children between ages 1–5............	2873
Visits to expectant mothers	171
Other visits (infectious disease, etc.)	574
Visits to midwives	42
Total visits	6500

Under the Milk (Mothers and Children) Order, 1918, milk was supplied free to 1,319 cases, 241 more than the previous year. No milk is given half price on account of the difficulty of administration, but, where it might be done, less than the full allowance is given and the family kept under observation. It is still found necessary to give extra milk to families receiving poor law relief, as the relief given has been inadequate. A very large proportion of those receiving milk are unemployed. Where the income stated on the application does not agree with the known wage ruling for the employment, or where we have other reason to make special enquiry as to income, this is done, and it is very rare to find any cause of complaint.

The supply of dentures to expectant or nursing mothers is not taken advantage of to any extent, only one mother having taken advantage of it during the year.

Earlier in the period under review more applications were received, but it was found necessary to put considerable pressure on the recipients to recover any part of the cost, even when that had been reduced to very small limits, and now there are few applicants. No doubt when work improves, and the financial position is easier, the scheme will be taken more advantage of.

The Notification of Births Act is carried out in a satisfactory manner. Out of 910 notifiable births only 38 were notified late.

Supervision of Midwives.—There are 24 midwives practising in the City, all being certified. Of the 24, six practice in connection with the Chester Benevolent Institution and Chester Maternity Hospital. In the case of this Institution, when their nurses have to call in medical help, they pay the doctor's fee where necessary. The midwives are seen as routine by the Medical Officer, who inspects their bags and registers, and questions them regarding their work. As occasion arrives, he also sees them regarding particular cases. The senior health visitor visits their homes, and periodically inspects their registers. They also send to the Local Authority a duplicate of the temperature chart in each case attended.

There was occasion to reprimand one midwife during the year for refusal to attend cases for which she had been engaged. Midwives were also interviewed on five other occasions in connection with their work.

Of the 801 births attended by midwives, 77 cases required the calling of medical help for the following reasons:—

Feebleness of child	6
Prolonged labour or unusual presentation	7
Complications before labour	9
Complications during labour	14
Complications after labour	6
Rise of temperature	11
Discharge from eyes	4
Deformity of infant	2
Lacerated perinæum	10
Abortion	3
Skin affections (child)	1
Prematurity	4

There were 32 still-births registered during the year, and all those attended by midwives, 29 in number, were enquired into. In 29 of the cases the probable cause of the still-birth was as follows:—

Disease or ill-health of mother	3
Accident of parturition	7
Accident to mother	6
Overwork	1
Prematurity	4
Twin pregnancy	3
Difficult labour	1
No satisfactory reason	4
	29

Under the provisions of the Midwives Act, the Local Authority paid the whole or part of the doctor's fee where the midwife had to call for medical help in eight cases. The number of such fees paid during the last three years has been 10, 12, 8. The Benevolent Institution pay the fees in cases they attend.

The notification of artificial feeding is not always observed. The reasons assigned in the 13 notifications received were—doctor's orders, 1; no breast milk, 4; mother refuses; ill-health of mother; mother had to return to work. These notifications in the last three years have numbered 4, 14, and 13.

Ophthalmia neonatorum was notified on seven occasions. This number includes cases of discharging eyes, which were not true ophthalmia. All the cases recovered without apparent injury to the eye.

During the year, health visitors reported 30 sanitary defects, which were at once attended to. They also bring to notice many cases of both moral and physical overcrowding, and many persons complain personally of the conditions in which they have to live. It is next to impossible to arrange better accommodation, and it is a cause for congratulation that there is no greater evidence of moral deterioration.

2. *The School Clinic.*—In connection with school medical inspection, three clinics are held. An inspection clinic in the morning, where children, brought by their parents or sent by the teacher, are examined and treatment arranged for any defect. Much of the following-up is also done at this clinic. Every afternoon a treatment clinic is held for the treatment of minor ailments. A dental clinic is also held daily except during the times when the school dentist is making a dental inspection of the schools.

3. *Tuberculosis Clinic.*—On Mondays, between 11 and 12, and on Thursdays, between 11 and 12 and 6 and 8 o'clock, is held the tuberculosis clinic, through which and by visits to the homes by the tuberculosis officer and the nurses, close touch is kept with practically every case of tuberculosis. During the year, 170 persons attended, including 62 new cases. There is still considerable difficulty in getting contacts to come for examination; fear seemingly is the deterrent.

The following is a statement of work done at the Dispensary during the last three years:—

	1923.	1924.	1925.
Patients attending ...	204 ...	170 ...	170
Attendances ...	523 ...	481 ...	794
New cases ...	61 ...	69 ...	62
Contacts examined ...	31 ...	15 ...	43

Institutional treatment has been given during the year to 71 tuberculous patients of which 47 were pulmonary cases and 24 non-pulmonary. The pulmonary cases of comparatively early type were treated at the Cheshire Joint Sanatorium, 14; at Kingswood, 4; and more advanced cases, numbering 27, at the Pavilion, Sealand; 1 at the Liverpool Chest Hospital; and 1 at Preston Hall. The non-pulmonary cases were mostly treated at the Shropshire Orthopædic Hospital, Oswestry.

The Guild of Social Welfare act as an efficient and sympathetic after-care committee in advising afflicted families, and in finding work both for members of the family and for quiescent cases.

The *Venereal Disease Clinic* is held at the Royal Infirmary on the following days and hours:—Mondays and Wednesdays, 5 to 7 p.m.; Thursdays, 1 to 3 p.m.; and Saturdays, 12 to 2 p.m.

The clinic is open all day for irrigations, and trained assistants are in attendance. The clinic is a joint clinic for the treatment of cases from the City of Chester and the Counties of Flint and Denbigh. A considerable number of cases also attend from the neighbouring parts of the County of Cheshire, although Cheshire has not officially joined the scheme.

The year 1925 saw a reduction in the number of cases of syphilis from Chester, but there is no corresponding reduction in the district covered by the clinic. The number of cases treated for gonorrhœa tends to rise. The number of attendances made per patient also tends to rise.

There is no doubt that a greater number of affected people are seeking treatment at the centres, and also persisting longer on the road to complete cure. There is fairly good evidence that the actual number of cases of syphilis is falling. That the numbers seeking treatment for gonorrhœa are increasing is satisfactory if it means, as in all probability it does, that treatment is more often sought by those suffering and not that the actual numbers are increased.

The following tables set out the number of Chester patients receiving treatment for the first time, and also the total numbers treated at the clinic for the last five years:—

CHESTER CASES (*New Cases*).

	1921.	1922.	1923.	1924.	1925.
Syphilis ...	21	23	32	32	21
Gonorrhœa ...	26	27	30	25	43
Soft Chancre ...	0	0	0	1	0
Other conditions ...	10	3	4	9	11
Attendances on Doctor	697	836	755	1218	1889
Aggregate in-patient days	367	381	55	187	38

THE WHOLE DISTRICT (*New Cases*).

	1922	1923.	1924.	1925.
Syphilis ...	109	116	118	113
Soft Chancre ...	0	0	1	0
Gonorrhœa ...	77	100	108	141
Other conditions ...	14	26	21	36
Total attendances on Doctor	2976	3388	3865	3560
In-patient days ...	973	532	392	664

The total number of new cases treated at the Centre in 1925 was 290, and the total of cases under treatment 644.

Work done for the clinic at the John Elliott Laboratory during 1925 was as follows:—

For the detection of spirochetes ...	3
,, of gonococci ...	317
For Wasserman reaction ...	324
For other organisms ...	4
	648

The Orthopædic After-Care Clinic.—This clinic, opened in 1921 under the auspices of the Cheshire Federation of Maternity and Child Welfare, and since transferred to the Cheshire Joint Committee for Orthopædic After-Care Clinics, is under the management of a voluntary local committee. Since its inception, the clinic has been a marked success. In the opening months, Miss Hunt, of the Shropshire Orthopædic Hospital and Agnes Hunt Home, very kindly undertook to bear all expenses, and since then, as the work has developed, the Cheshire Federation gave financial help, and now, with contributions from the Local Education Authority for the treatment of children of school age and from the Public Health Authority for tuberculous cases, together with the grants and money raised locally, the work has been carried on with marked success. A specialist surgeon visits the clinic every month, and sees all cases, selecting those requiring operative treatment and advising as to others. At the weekly sessions, a Sister attends from Shropshire Hospital and sees that all appliances are in proper use. Under the direction of this Sister the work of the clinic and, where necessary, at the homes is carried out by voluntary workers from the British Red Cross organisation and from the members of Society of St. John of Jerusalem. From the opening of the clinic until the end of 1925, 140 patients have attended; 34 of those were suffering from tuberculous disease, and 106 from other crippling defects, chiefly rickets and the effects of infantile paralysis. In 1925, 32 new cases were admitted, 9 being cases of tubercle and 23 of other conditions.

Public Health Officers of the Local Authority.

Whole-time. Male Staff.

1. Medical Officer of Health, School Medical Officer, Tuberculosis Officer and Medical Superintendent Infectious Diseases Hospital.
2. Assistant Medical Officer and Assistant School Medical Officer, etc.
3. §†Chief Sanitary Inspector, F.S.I.A., C.R.S.I., Tech. Silver Medallist.
4. Chief Clerk.
5. *†District Sanitary Inspector, M.S.I.A., C.R.S.I.
6. District Sanitary Inspector, C.R.S.I.
7. Assistant District Inspector.

8. §Assistant Clerk and Additional Inspector, C.R.S.I.
9. Assistant Clerk and Laboratory Attendant.
10. Labourer.
11. Rat Catcher.

* Chiefly employed in Meat Inspection and Housing.

† Certificate of the Royal Sanitary Institute for Meat and Food Inspectors.

§ Certificate Liverpool University for Meat and Food Inspectors.

Female Staff.

Health Visitor and School Nurse, C.M.B., C.R.S.I.

Health Visitor and School Nurse, C.M.B., C.R.S.I., General Trained.

Health Visitor and School Nurse, C.M.B., General Trained.

Health Visitor and School Nurse, C.M.B., General Trained.

Part-time Staff.

Two Clinical Officers, V. D. Clinic, on the Staff of the Royal Infirmary.

Physician: at Maternity and Child Welfare Centre.

Veterinary Surgeon: under Tuberculosis (Animals) Order, 1925.

PROFESSIONAL NURSING IN THE HOME.

(*a*) General Nursing.—There is no outside nursing done by the Infirmary Authorities. Most of the nursing for general purposes is done by the Chester District Nursing Association. The nurses employed by the Chester Benevolent Institution attend roughly a third of the maternity cases in their homes.

(*b*) As regards infectious diseases, the great majority of these cases are treated in hospital. In the case of measles and whooping cough, the Local Authority have entered into an agreement with the District Nursing Association by which, for the payment of £50 a year, they help in the home-treatment of minor ailments, and, at times of epidemic, attend in their homes cases of measles and whooping cough sent to them by the Local Authority. Provision is now made for treatment of severe or complicated cases of these diseases in hospital.

Midwives.—There are 24 midwives practising in the City, all certified and none subsidised by the Local Authority. (See also page 32.

Chemical and other Laboratory Work.

In the Municipal Laboratory are examined all the necessary swabs and specimens from the Isolation Hospital and from the Tuberculosis Clinic, and also a large amount of material from private practitioners in the City. In addition, the City water supply is examined chemically once a month, and water from each separate filter and from a consumer's tap is examined every 14 days. During the last few years a great deal of work in the bacteriological examination of milk has been done. This work has only been rendered possible by the opening of the John Elliot Memorial Laboratory at the Royal Infirmary. This Laboratory was opened in 1922, and it was arranged that where patients could reasonably be expected to pay a fee for the laboratory work necessary that the work would be done at the John Elliot Laboratory, the Municipal Laboratory remaining at the disposal of practitioners for all work for which a fee could not be paid.

During the year 1925, in addition to the water analysis and milks done, 672 specimens were examined, particulars of which are given below, together with similar information for the previous four years:—

LABORATORY WORK, 1921–1925.

Material.	Examined for	Positive	Negative.	TOTALS.				
				1921	1922	1923	1924	1925
Throat Swab	Diphtheria bac.	64	438	1254	929	405	590	502
Sputum ...	Tubercle bac....	37	86	158	144	135	105	123
Urine ...	Albumen ...	2	7	6	11	5	9	9
Eye Swab ...	Gonococcus ...	...	2	11	2	1	7	2
Smear ...	Gonococcus ...	1	2	50	48	2	1	3
Fæces ...	Bacillus Typhusus ...	...	19	10	...	21	31	19
Blood ...	Widals reaction	4	...	12	5	5	18	4
Blood ...	Anthrax ...	...	1	...	...	...	...	1
Swab ...	Vincents Angina ...	...	...	...	1	...	...	...
Urine ...	Casts	...	...	...	9	1	...	...
,, ...	Sugar	...	...	...	6	...	...	...
,, ...	Tubercle or other ...	...	...	12	2	4	3	...
Placenta ...	Spirochæta Pal.	...	...	...	1	...	...	...
Pleural eff.	Organism ...	....	...	...	1	...	...	...
Cerebro Spinal Fluid	Meningococus ...	...	...	...	2	4	...	...
Hair ...	Ringworm ...	...	...	6	3	31	52	...
Fæces ...	Ova	...	...	1	...	...	...	...
Other ...				18	11	2	1	...
Totals ...				1528	1171	616	817	672

Bacteriological Water Examinations ...	198
Chemical Water Examinations ...	12
Bacteriological Examination of Milk ...	182
Total ...	1064

CHEMICAL EXAMINATION OF THE CITY WATER SUPPLY.

As has been frequently pointed out, chemical examination of a water, while capable of detecting pollution, does not indicate with any certainty the nature of the pollution. We know that the river is polluted, and we frequently get evidence of such pollution, but as is to be expected, there has been no sign of dangerous pollution. On one occasion during the year complaint was made of the taste of the water, and on the same occasion the Water Company also received complaints. On enquiry from the Water Company, it was ascertained that the contamination responsible had taken place further up the river, and that steps had been taken to avoid a recurrence. The contamination was in no way dangerous although disagreeable.

CHEMICAL ANALYSIS OF CITY WATER SUPPLY, 1925.

The results of the chemical examinations are given in the following table:—

Date. 1925.	SOURCE.	Chlorine.	Free Ammonia	Albuminoid Ammonia.	Oxygen absorbed in ¼ hour.	Oxygen absorbed in 4 hours.
Jan. 14	Davies Buildings, Pepper St....	1·3	0008	·0134	·0784	·1548
Feb. 11	Posnett's Ct., Watergate Row	1·5	·00026	·010	·1312	·1472
Mar. 11	Trinity Court, Trinity St. ...	1·7	·00026	·0048	·0656	·152
April 15	Banners Court, Princess St. ...	1·8	·0015	·0117	·100	·176
May 20	Davies Buildings, King St. ...	2·2	·002	·011	·0256	·136
June 17	Kiln Court, Linenhall St. ...	2·7	·003	·010	·056	·112
July 15	Keartland Place, Bridge St. Row	3·8	·0010	·0166	·046	·108
Aug. 17	Horton's Court, Goss St. ...	4·4	·003	·0166	·077	·132
Sept. 16	Coleclough Ct., Watergate Row	1·9	·00132	·0114	·14	·277
Oct. 14	Cathcart Square, Crook St. ...	2·0	·0018	·0112	·07	·144
Nov. 18,	Jonas Court, Princess St. ...	1·8	·0035	·0172	·06	·194
Dec. 9	Trinity Court, Trinity St. ...	2·2	·016	·014	Tests unsatisfactory	

BACTERIOLOGICAL EXAMINATION OF THE WATER SUPPLY.

This is the second year in which the higher standard of 100 c.c. of water from which typical bacillus coli should be absent has been applied. The results are distinctly better than those of last year. Omitting the results of the examination made on April 22nd, which are difficult of explanation and may indicate an accidental fault in technique, the clear water reservoir gave satisfactory results on the 100 c.c. test on 63·6 per cent. of the samples examined and in 86·3 per cent. on the old 10 c.c. basis. In 1924 the percentages of good results were 41· per cent. and 66· per cent.

The bacteriological examination results are given in the following table:—

The following table sets out the bacteriological findings for the year:—

Bacteriological Examination

Date.	Unfiltered River Water.					Filter 1.				Filter 3				Filter 4.			
1925	Gel. (1)	Agar. (2)	B. Coli (3)			Gel. (1)	Agar. (2)	B. Coli (3)		Gel. (1)	Agar. (2)	B. Coli (3)		Gel. (1)	Agar. (2)	B. Coli (3)	
			·5	·1	·01			10	100			10	100			10	100
Jan. 7	20500	1140		x	—	169	20	x	x	41	28	—	x	Not Running			
Jan. 21	8300	635		x	x	25	18	—	x	16	17	—	—	4	7	—	x
Feb. 4	5500	515	x	x		Liq.	21	—	x	15	18	—	—	29	33	—	x
Feb. 18	11700	300		x	—	7	9	—	x	6	8	-	x	5	8	—	x
Mar 4	3000	650		x		Liq.	8	—	x	10	9	—	x	Not Running			
Mar. 18	8500	1225		x	—	21	36	—	—	20	G.O.	—	x	25	20	—	—
April 1	3100	645	x	x		4	2	—	—	3	5	—	—	Not Running			
April 22	200	80	—	-		—	—	—	--	4	8	—	—	Not Running			
May 13	2700	235	—	—		—	13	—	x	55	3	—	—	Not Running			
May 27	16500	6220	x	x		50	28	x	x	5	1	—	—	12	6	—	—
June 10	*	40	—	-		*	8	—	—	*	1	—	—	Not Running			
June 24	Liq.	4	x	—		5	3	—	—	1	1	—	—	0	2	—	—
July 1	Liq.	75	x	x		4	2	—	—	2	3	—	—	1	1	—	—
July 22	550	255	x	x		2	3	—	—	3	2	—	—	8	2	—	—
Aug. 5	1600	1715	x	x		0	0	-	—	2	4	—	—	Not Running			
Aug. 19	Liq.	80	x	x		Liq.	G.O	—	—	Liq.	8	—	—	Liq.	7	—	—
Sept. 9	Liq.	1050	x	x		Liq	32	—	—	Liq.	18	-	—	Not Running			
Sept. 23	Liq.	2325	x	—		Liq.	37	—	-	Liq.	24	—	—	Liq.	57	—	—
Oct. 7	105	275	x	—		Not Running				3	17	—	—	29	1	—	—
Oct. 21	273	G.O		x		Not Running				8	6	—	—	Not Running			
Nov. 11	1650	1370		x		Not Running				3	4	—	—	Not Running			
Nov. 25	2600	350	x			Not Running				6	2	—	—	16	6	§	§
Dec. 2	3300	2011	x	x		Not Running				48	3	x	x	Not Running			
Dec. 16	1200	430	x	x		Not Running				39	14	x	x	Not Running			

REFERENCE :—

— B Coli Absent. x B Coli Present. * Tests Spoilt, High Temperature.

of City Water Supply, 1925.

Filter 5.				Filter 6.				Filter 7.				Filter 8.				Consumers' Tap.			
Gel. (1)	Agar. (2)	B. Coli (3)		Gel. (1)	Agar. (2)	B. Coli (3)		Gel. (1)	Agar. (2)	.B Coli (3)		Gel. (1)	Agar (2)	B. Coli (3)		Gel. (1)	Agar. (2)	B. Coli (3)	
		10	100			10	100			10	100			10	100			10	100
164	31	x	x	11	15	—	—	17	7	—	—	147	37	x	x	110	32	—	x
30	G.O.	—	x	6	4	—	—	17	5	—	x	13	10	—	x	33	G.O.	x	x
19	13	x	x	35	19	x	x	17	12	x	x	56	15	—	x	47	14	—	x
18	4	—	x	12	7	—	x	11	4	—	—	16	8	—	x	14	5	x	x
8	7	—	x	10	6	—	—	9	7	—	—	8	10	—	x	16	7	—	x
27	8	—	—	9	10	—	—	15	8	—	x	13	104	—	—	28	24	—	—
2	7	—	—	3	2	—	—	7	3	—	—	17	3	—	—	4	9	—	—
9	6	—	—	5	4	—	—	27	3	—	—	27	6	x	x	26	6	x	x
27	4	—	—	1	4	—	—	2	5	—	—	23	6	—	—	16	3	—	—
15	10	—	—	10	6	—	—	30	25	—	x	16	5	—	x	16	8	—	—
*	3	—	—	*	2	—	—	*	4	—	—	*	3	—	—	*	7	—	—
13	0	—	—	23	0	—	—	38	2	—	—	7	4	—	—	3	5	—	—
11	14	—	—	2	3	—	—	24	3	—	—	10	8	—	—	6	3	—	—
12	6	—	—	1	1	—	—	43	4	—	—	12	2	—	—	10	1	—	—
10	10	—	—	2	0	—	—	15	3	—	—	10	2	—	—	4	7	—	—
Liq.	10	—	—	Liq.	9	—	—	Liq.	11	—	—	Liq.	G.O.	—	—	Liq.	9	—	—
Liq	98	—	x	Liq.	24	—	—	Liq	G.O.	—	x	Liq.	34	—	—	Liq.	6	—	—
Liq.	27	—	x	Liq.	20	—	—	Liq.	16	—	—	Liq.	17	—	—	Liq.	8	—	x
Liq.	10	—	—	23	3	—	—	17	23	—	—	Liq.	14	—	—	66	38	—	—
24	8	—	—	4	3	—	—	3	6	—	—	6	G.O.	—	—	130	G.O.	—	—
26	13	x	x	21	10	—	—	22	G.O.	—	—	15	G.O.	—	—	24	12	—	—
17	12	§	§	22	12	§	§	16	12	§	§	§	§	§	§	§	§	—	—
140	9	x	x	30	7	x	x	45	6	x	x	52	21	x	x	68	20	—	x
41	27	x	x	20	5	—	x	30	14	—	x	40	9	x	x	33	10	x	x

G.O.—Agar Grown over. Liq.—Gelatine Liquified. §—Accident & not worked out.

In 1923 we were threatened with abstraction of some of the purest water entering the Dee, and it was then pointed out that if such application were successful, Chester would be left to draw its water supply practically entirely from surface drainage of the comparatively densely-populated Dee Valley. The establishment of a Conservancy Board for the Dee Valley was advocated not only for the purpose of preventing abstraction of the purer water but also to compel purification or removal of existing sources of pollution. I am still of opinion that something of this nature should be tried.

Sanitary Circumstances of the Area.

Water.—The Chester Waterworks Company, through which Chester is supplied with water, draws its supply from the River Dee at a point about one and a half miles above the Weir. The intake is within the area affected by high tides, which cross the Weir, but although the water at the intake is affected by exceptional tides, repeated examinations have failed to detect contamination from the lower river. Also, the Water Company is forbidden to pump water from the river for a given time after the tide has crossed the Weir, the time varying with the height of the tide. The river is known to be contaminated through most of its length by both imperfectly treated and non-treated sources of pollution, of which probably the greatest is at Llangollen. The river being a comparatively slow-moving stream allows the greater part of the serious contamination to sediment before the intake is reached. The whole Dee Valley is populous, however, and there is a large number of small sources of pollution which it would be difficult to control. The City has no control over these sources of pollution, nor do I know of effective control exercised even over the larger sources by any other Authority. A storm overflow belonging to the City, which was a source of trouble, has been altered during the year, and has not been a source of complaint since. Another overflow remains to be dealt with.

The River Dee, although contaminated, is probably purer than many other rivers used as public supplies. Modern methods of purifying water can make such a supply perfectly wholesome and safe. The Chester Waterworks Company depend on filtration and filtration only. There is no adequate storage, nor any attempt to sterilize the water.

The supply is a constant one, and the Company, in addition to supplying the whole of the City, extends its activities for a considerable distance outside. In the City there are now comparatively few houses without a water supply inside the house, with properly drained sink, or a supply in their yard.

In some of the courts there is still a stand-pipe for the common use of the inhabitants, but this is not now common.

Finchett's Gutter, the only stream, apart from the river, which runs through or skirts the City, some years ago suffering from considerable pollution, is now in a satisfactory condition.

Closet Accommodation.—For some years—since 1920—there have been no privies or pail closets in the City which can at present be abolished. There are now only nine privies, situated mostly in the rural parts of the town, and 41 pail closets, mostly in connection with houses built too low to allow access to the sewer.

Scavenging.—Our method of household removal is still very unsatisfactory, but a proposal to introduce what is known as the container system has been adopted and awaits the sanction of the Ministry to borrow the necessary money. This ought to be a great improvement and should prevent the undoubted nuisance of refuse getting blown from the open carts during loading and their passage to the tip. The new method ought to avoid nuisance and unsightliness, and be easier for the men employed. The removal takes place once a week, and in the business part of the City daily. To make any system of removal satisfactory the universal use of a properly constructed moveable dust-bin is a necessity, and in recent years much has been done to attain this. During 1925, ashpits were abolished in 21 instances and 208 ashbins introduced, and in the five years, 1921-25, 128 ashpits have been abolished and 1,889 ashbins introduced. The figures for the individual years are as follows:—

	Ashpits abolished.	Ashbins introduced.
1921	34	504
1922	39	430
1923	23	383
1924	11	364
1925	21	208

Sanitary Inspection of the Area.

Canal Boats Acts, 1884 and 1887.

The number of canal boats on the Registers kept under the above Acts was 307 on 31st December. This is no less than 153 fewer than in 1924. up till when the number had been fairly constant at about 460. Of the boats no longer registered here, 81 have been sold and registered elsewhere, but 72 have been broken up.

One hundred and forty boats were inspected, and, with one exception, complied with the regulations. The one contravention was the absence of a Certificate of Registration.

The accommodation provided in the boats inspected was for 460 persons, but only 380 were in occupation. This number included 140 adult males, 105 adult females, 85 children of school age, and 50 children under school age. Particulars of the work done will be found tabulated at the end of the Report.

Sanitary condition of Schools.—The sanitary condition of schools has been maintained in a satisfactory manner. At one school the latrines have been entirely renewed and modernised, which has been the only considerable piece of work required.

Home workers.—The homes of outworkers were regularly inspected, and, with one exception, were found satisfactory.

Thirty-five lists of such workers were received, giving particulars of 21 persons employed.

FOOD INSPECTION.

During the past five years, besides the regular inspection and gradual improvement of places where food is prepared, considerable advance has been made, particularly in the slaughtering and inspection of meat, and to a certain extent in its protection from contamination in retailers' shops, and also in the provision of a pure milk supply. This has been made possible by the application of the Milk and Dairies (Consolidated) Act, 1915, and the Tuberculosis Order (Animals), 1925, and the Public Health (Meat) Regulations, 1924.

The first of these gives considerably wider powers as to the taking of samples in course of delivery, so that we are not so strictly limited in action to our own area. The Tuberculosis Order

(Animals), 1925, came into operation on the 1st of September, 1925. Under this Order all cattle in dairies within our boundaries will be examined by a veterinary surgeon twice a year. The milk of animals showing signs of illness which might affect the milk is examined, and when necessary prohibited from being used as human food, and any animal showing signs of tuberculous disease may be slaughtered, due provision being made for compensating the owner according to the condition found. During November and December, 320 cows were examined, and samples of milk were taken from 24. As the result of bacteriological examination, 6 of the 24 were found to be giving unsatisfactory milk, and this was at once taken out of circulation. In four cases cows were slaughtered, and in each case was found to be suffering from generalised tuberculosis. This Order will do much to purify the milk supply, and also should lessen the amount of non-pulmonary tuberculosis in the population.

The Public Health (Meat) Regulations, 1924, became operative on 1st April, 1924. These regulations gave very valuable help in prescribing conditions as to time and place of slaughter and of inspection before removal from the slaughter-house. They also provided for the protection of meat during transport by proper wrappings and in butchers' shops from contamination from flies, mud, filth, or other substances being splashed or blown thereon. Satisfactory progress was being made under these regulations in getting retail butchers to fit windows to their shops, when an explanatory circular was issued by the Ministry which indicated that the general interpretation of the regulations was wrong, and that they meant little or nothing. As a consequence, there are still many retail butchers exposing meat in open shops liable to have mud, filth, or other substance blown or splashed thereon. The original Order ought not to have been explained away, and it ought to have applied to all food substances not otherwise efficiently protected. Hams, bacon, cheese, the latter often with cut surfaces, fish and vegetables are commonly exposed to hazard within a few feet of motor traffic and of dogs.

(*a*) The milk supply of the City may be considered of satisfactory quality so far as its fat and non-fatty solids are concerned.

During the year, 50 samples were submitted to analysis, and gave an average content of fat of 3·7 per cent. and of non-fatty solids of 8·92 per cent.

For the last five years, the average composition of the samples examined has been as follows:—

	Fat.		Non-Fatty Solids.
1921	3·67	...	8·83
1922	3·5	...	8·8
1923	3·9	...	8·8
1924	3·7	...	8·76
1925	3·7	...	8·92

There are sixteen cowsheds within the City boundaries which are all regularly inspected and kept in a satisfactory condition. Those and other dealers in milk fall under the following headings for the purpose of the register required by the Milk and Dairies (Amendment) Act, 1922:—

1. Producers, purveyors and wholesale dealers ...	6
2. Purveyors and wholesale dealers	9
3. Producers and purveyors	29
4. Purveyors	54

Up to the end of 1925, there had been no application for a licence to produce or sell any form of "graded" milk.

BACTERIOLOGICAL EXAMINATION OF MILK.

Until recent years, our endeavours to obtain clean milk was based upon the crude method of estimating the visible and ponderable filth present. This method was entirely unsatisfactory, as it is not the visible filth that is the real danger but the bacteria gaining access to the milk along with that filth. These bacteria not only cannot be separated by straining but they have in milk an ideal medium for growth and multiplication. The introduction of bacterial counts for milk and the establishment of certain standards put our endeavours to get a clean milk on a more scientific and surer basis. For the last three years considerable work has been done in this direction, and, during 1925, one hundred and eighty-two samples of milk have been examined for the number of germs present and for the quantitative presence of bacillus coli.

That a large proportion of our milk supply is clean is shown by the following tables, which also show that some of it is far from satisfactory. The results shown so far as the number of germs present are concerned are probably too favourable, as a large proportion of the milks examined are only a few hours old—less than 12—and no less than 86 per cent. of the samples showed the presence of bacillus coli in 1 c.c. and 60 per cent. in 0·1 c.c.

As an example of what can be done, a sample of "certified" milk was examined when three days old, and was found to contain only 1,475 germs per cubic centimeter, and bacillus coli was absent from 1 c.c.

A number of the milk producers in and near Chester are producing milk of reasonable cleanliness, and probably are only deterred from seeking a licence to sell "Grade A." milk because of the lack of demand. Yet, if the public realised that however satisfactory the milk they are getting is, there is only the scantiest assurance that it may not contain tubercle bacilli, and also that there is not likely to be that constant supervision and protection from contamination which is necessary to produce "Grade A." milk, they would be willing to pay the small extra charge for the safer article.

The following table gives a summary of the results of the last three years' examinations:—

	1923.		1924.		1925.	
	Germs in 1 c.c.	%	Germs in 1 c.c.	%	Germs in 1 c.c.	%
Under 100,000 per c.c. ...	37	62	40	66	113	62
100,000 & under 200,000 ...	5	8·5	4	6·6	32	17·6
200,000 & under 500,000 ...	8	13	12	20	16	8·8
500,000 & under 1,000,000...	3	5	1	1·6	7	3·8
1,000,000 and over... ...	6	10	3	5	14	7·7
Total examined ...	59		60		182	

The following table gives details of the work done in 1925:—

BACTERIOLOGICAL MILK EXAMINATIONS, 1925.

Date, 1925.	Serial Number.	Germs per c.c.	B Coli. in		REMARKS.
			1.0	0·1	
January 7	1	27,666	×	×	
7	2	28,566	×	×	
14	3	7,800	×	—	
14	4	47,000	×	—	
21	5	109,000	×	×	*
21	6	69,500	×	—	
28	7	17,000	—	—	
28	8	12,000	—	—	
28	9	101,200	×	×	*
28	10	25,500	—	—	
Feb. 2	11	44,500	×	×	
2	12	60,500	×	—	
2	13	74,500	×	—	
2	14	121,500	×	×	*
9	15	92,500	×	×	
9	16	28,375	—	—	
9	17	28,750	×	—	
9	18	11,475	×	—	
16	19	142,500	×	—	*
16	20	13,850	×	×	
16	21	253,000	×	×	*
16	22	Uncountable	×	×	*
23	23	7,500	—	—	
23	24	7,500	×	×	
23	25	91,500	×	×	
23	26	28,900	×	×	
March 2	27	85,500	—	—	
2	28	28,550	—	—	
2	29	91,000	×	×	
2	30	43,900	×	×	
9	31	130,000	×	×	*
9	32	1,800	×	×	Pasteurised Loose
9	33	198,500	×	×	*
9	34	88,400	×	—	
16	35	17,125	×	—	
16	36	160,500	×	—	*
16	37	95,000	×	—	
16	38	75,000	×	×	
23	39	13,875	×	—	
23	40	60,500	×	—	
23	41	26,000	—	—	
23	42	1,475	—	—	"Certified Milk"
30	43	75,400	×	—	
30	44	47,800	×	—	
30	45	5,100	×	—	
30	46	15,300	×	—	
April 6	47	32,400	×	×	
6	48	29,050	—	—	
6	49	37,700	×	×	
6	50	31,700	×	×	
14	51	21,475	×	—	
14	52	22,975	×	—	
14	53	160,000	×	×	*
14	54	42,675	×	×	
20	55	32,300	×	×	
20	56	39,025	×	×	
20	57	23,325	×	×	
20	58	148,000	×	×	*

Date. 1925.		Serial Number.	Germs per c.c.	B Coli in		REMARKS.
				1·0	0·1	
April	27	59	13,725	×	—	
	27	60	284,500	×	×	*
	27	61	26,775		—	
	27	62	6,350	×	×	Pasteurised, Loose
May	4	63	21,050	×	—	
	4	64	142,500	—	—	‡
	4	65	108,000	×	—	*
	4	66	27,630	—	—	
	11	67	19,275	—	—	
	11	68	79,666	×	—	
	11	69	23,000	×	×	Pasteurised, Bottled
	11	70	106,500	×	×	*
	18	71	39,275	×	×	
	18	72	18,300	—	—	
	18	73	331,500	×	—	*
	18	74	25,250	×	×	
	25	75	88,500	×	×	
	25	76	259,500	×	×	*
	25	77	50,450	×	—	
	25	78	39,175	×	—	
June	2	79	26,900	×	×	
	2	80	19,375	×	—	
	2	81	23,675	—	—	
	2	82	162.500	×	×	*
	8	83	Uncountable	×	×	*
	8	84	45,800	×	×	
	8	85	13,300	—	—	
	8	86	14,350	×	×	
	15	87	27,350	×	×	
	15	88	600,000	×	×	*
	15	89	Uncountable	×	×	*
	15	90	3,700	×	—	Pasteurised, Loose
	22	91	194.500	—	—	§
	22	92	142,000	×	×	†
	22	93	Uncountable	×	×	*
	22	94	Uncountable	×	×	*
	29	95	69,733	×	×	§
	29	96	189,933	×	×	
	29	97	68,375	×	×	
	29	98	189,500	×	×	
July	13	99	93,700	×	×	
	13	100	Uncountable	×	×	*
	13	101	136,625	×	×	‡
	13	102	485,000	×	×	‡
	20	103	36,950	×	×	
	20	104	44,050	—	—	
	20	105	41,925	×	×	
	20	106	42,550	×	—	
	27	107	95,875	×	×	
	27	108	190,000	×	—	†
	27	109	730,000	×	×	*
	27	110	506,000	×	×	‡
August	4	111	129,000	×	×	† Pasteurised, Loose
	4	112	176,000	×	×	† Pasteurised, Bottled
	4	113	181,000	×	×	*
	4	114	215,000	—	—	*
	10	115	388,500	×	×	†
	10	116	65,000	×	×	
	10	117	47,000	×	×	
	10	118	87,000	×	×	
	17	119	61,500	×	×	
	17	120	385,000	×	×	*

Date, 1925.	Serial Number.	Germs per c.c.	B Coli in		REMARKS.
			1.0	0·1	
August 17	121	25,500	×	×	
17	122	350,000	×	×	*
25	123	77,500	×	×	
25	124	68,000	×	×	
25	125	69,000	×	×	
25	126	121,000	×	×	*
Sept. 15	127	32,000	×	—	
15	128	684,000	—	—	‡
15	129	1,110,000	×	×	*
15	130	472,000	–	—	*
21	131	73,000	×	×	
21	132	11,025	—	—	
21	133	3,961,000	×	×	*
21	134	198,000	×	×	‡
28	135	53,750	×	—	
28	136	291,500	×	×	*
28	137	150,150	×	×	*
28	138	11,933	×	×	Pasteurised, Loose
October 5	139	1,004,000	×	×	*
5	140	1,200,000	×	×	†
5	141	748,000	×	×	‡
5	142	1,700,000	×	×	*
12	143	61,700	×	×	
12	144	133,000	×	×	*
12	145	890,000	×	×	*
12	146	322,000	×	×	*
19	147	41,650	×	×	
19	148	27,025	×	×	
19	149	Over 3,000,000	×	×	*
19	150	357,000	×	×	*
26	151	191,000	×	—	*
26	152	52,100	×	—	
26	153	99,850	×	×	
26	154	56,300	×	-	
Nov. 2	155	1,000,000	×	×	*
2	156	79,250	×	×	
2	157	57,500	×	×	
2	158	104,500	×	×	*
9	159	46,150	×	—	
9	160	212,500	×	×	*
9	161	57,100	×	×	
9	162	14,675	×	×	
16	163	14,350	—	—	Pasteurised, Loose
16	164	16,600	—	—	Pasteurised, Bottled
16	165	79,000	×	×	
16	166	175,500	×	×	§
23	167	100,500	×	—	*
23	168	28,400	×	—	
23	169	140,000	×	—	‡
23	170	500,000	×	×	*
30	171	11,225	×	—	
30	172	19,925	×	—	
30	173	101,750	×	×	*
30	174	26,850	—	—	
Dec. 7	175	80,500	×	×	
7	176	20,075	×	×	
7	177	265,500	×	—	*
7	178	24,025	×	—	
14	179	71,000	×	—	
14	180	307,000	×	×	*
14	181	61,750	×	—	
14	182	1,962,000	×	×	§

Reference to remarks. Letters written to :—
* Vendor and M.O.H. District of supply. ‡ Vendor and Wholesaler. § Vendor and Producer.
† Vendor (who is also Producer.

Where counts of over 100,000 are obtained, the vendor or producer are written to.

During the current year it has been arranged that, with the producers' consent, where large counts are met with, the Cheshire School of Agriculture shall be informed, and they have undertaken to examine and advise on the methods of production.

Meat.—Progress towards the centralisation of slaughter of animals for food has been made by the Local Authority taking over the slaughter-house in Queen Street and, after extensive alterations, opening it as a public slaughter-house. It was opened in the autumn of 1925, and at once a shortage of lairage accommodation was experienced. This is being remedied by taking over some adjoining buildings which will provide sufficient lairage for all types of animals slaughtered there. There is a central slaughtering hall for cattle, a smaller hall and covered yard for sheep and pigs, and a separate cooling hall. All offal and waste is removed at frequent intervals, and a separate store for hides will be provided when the extension is taken over. All condemned meat is removed by a local bone manure manufacturer and converted into manure by prolonged boiling. Meat marking has been introduced, but is not yet general. The work done at the slaughter-house and the necessary inspections requires a large proportion of an Inspector's time.

In addition to the Public Abattoir, there are 5 registered and 2 licensed slaughter-houses in the City. The following table shows the changes which have taken place since 1920:—

PRIVATE SLAUGHTER-HOUSES.

	1920.	January, 1925.	December, 1925.
Registered ...	6	6	5
Licensed ...	6	5	2
Total ...	12	11	7

Those slaughter-houses are regularly visited at the hours notified for slaughter and necessary inspections made.

All unsound meat was voluntarily surrendered, and there was no occasion to take proceedings against any meat salesman.

The following table shows the instances where foodstuffs were condemned:—

Beef—Carcases and offal	28
Portions of carcases	4
Mutton and lamb—Carcases and offal	5
Pork—Carcases and offal	5
Part carcases and offal	2
Heads	23
Veal—Carcases and offal	4
Imported beef—Quarters	4
Imported lamb—Carcase	1
Imported livers in boxes	3
Imported kidneys	12
Imported corned meat (tin)	1
Fish—Finnan haddock (boxes of)	7
Plaice (boxes of)	1
Cod (boxes of)	1
Crabs (barrel)	1
Game—Partridge (brace)	2½
Vegetables—Carrots (sacks of)	53

The estimated weight of condemned food was 9 tons, 8 cwt., 2 qts., 11 lbs.

The causes of unsoundness as food are given in the following table:—

Beef—Tuberculosis—carcases	28
Contusion—portions of carcases	2
Septic—portions of carcases	1
Mutton—Febrile—carcases	3
Septicæmia—carcases	2
Veal—Immature—carcase	2
Joint-ill—carcase	1
Decomposition—carcase	1
Pork—Tuberculosis—carcases	2
Tuberculosis—heads	23
Peritonitis—head	1
Erysipelas—head	1
Inflammation—portions of carcase	1
Abscess—portions of carcase	1
Pleurisy—carcase	1

The remainder of the condemned food was decomposed.

In the inspection of meat and other foods the following visits have been made:—

Slaughter - houses	734
Butchers' shops	393
Fishmongers' shops	277
Other food shops and stores	292
	1,696

The inspection of foodstuffs other than meat and milk does not call for special comment. Constant attention is given to places where food is manufactured, prepared, or sold, and there has been during the past five years some improvement in the conditions, particularly in the more cramped premises.

The bakehouses are kept in a satisfactory sanitary condition, and are regularly visited. There are no underground bakehouses in Chester Either furnace or patent ovens are installed in all, but in a few instances firing is done in the bakehouse, which is undesirable on account of unavoidable dust and smoke. A new factory bakehouse was opened in 1925 with the best types of ovens. The lighting and ventilation of the building received special attention, and dressing rooms and bathrooms have been provided in duplicate for the staff.

A certain amount of bread is now being delivered in a paper cover by one or two bakers, but wrapping of bread is not yet general or even common. There is no evidence that stale bread is being exchanged for fresh.

Remark has already been made on the need for regulations against the exposure of food to contamination. The "explained" Meat Regulations are of little use, even so far as meat is concerned, and there are no regulations regarding the exposure of butter, lard, cheese, fruit, vegetables and fish, which are constantly exposed to contamination.

SALE OF FOOD AND DRUGS ACTS, 1875-1907.

The following table sets out the samples of food submitted for analysis under the above Acts:—

Name of Article.	No. not Genuine.	No Genuine.	No. taken formally.	No. taken informally.	Totals.
Milk	2	48	50	...	50
Butter	1	11	12	...	12
Cream	...	10	10	...	10
Sweets	...	6	6	...	6
Condensed Milk	...	4	4	...	4
Flour	...	4	4	...	4
Lard	...	4	4	...	4
Biscuits	1	2	3	...	3
Cake	3	...	3	...	3
Coffee	...	3	3	...	3
Margarine	...	3	3	...	3
Rice	...	3	3	...	3
Baking Powder	...	2	2	...	2
Custard Powder	...	2	2	...	2
Cheese	...	2	2	...	2
Dried Milk	...	2	2	...	2
Jam	...	2	2	...	2
Pepper	...	2	2	...	2
Whisky	...	2	2	...	2
Oranges	...	1	...	1	1
	7	113	119	1	120

Of the total samples analysed, 5·83 per cent. were adversely reported upon. Fifty samples of milk were examined, of which two were found to be below the standard. One sample contained 12·4 per cent. of added water, and the other was deficient in fat by 5·7 per cent and had also 2·3 per cent. of added water. All the milks were stated to be free from sediment. The sample of butter adversely reported upon was margarine, and the fault one of exposing it without proper label: a letter of warning was thought sufficient.

One sample of biscuits contained 3·5 grains of boric acid per pound, and three samples of cakes were found to contain 4·9, 3·5, and 2·1 grains of boric acid per pound. The eight samples of preserved cream contained boric acid, ranging from 0·16 per cent. to 0·35 per cent. Two samples of butter and one of margarine contained 0·22, 0·09, and 0·17 per cent. of boric acid. The only preservative found was boric acid, but it was present in 12·5 per cent. of the samples examined.

The Public Health (Preservatives, etc., in Food) Regulations, 1925, which comes into force in January, 1927, ought to abolish this wide use of boric acid.

The following table gives particulars of the legal proceedings taken under the Sale of Food and Drugs Acts:—

No. of Sample	Name of Article.	Result of Analysis.	Result of Legal Proceedings or action taken by the Public Health Committee.
29	Milk ..	Contained 12·4 % extraneous water.	Proceedings instituted. Fined 10/- and 15/6 costs.
57	Butter ..	The sample consists entirely of Margarine.	Proceedings not instituted. Vendor gave notice before completion of purchase the article supplied was "Margarine." The Committee instructed the Town Clerk to send to the Vendor a letter of warning in respect of the article being exposed for sale and not being labelled "Margarine."
59	Milk ..	Deficient in 5·7 % fat, and contained 2·3 % extraneous water.	Proceedings not instituted against the Vendor, as a sample taken in course of delivery from the producer by the Inspector for Cheshire County Council was found to correspond with this sample. Proceedings instituted by the County Authority resulted in the producer being fined 20/- and 10/6 costs.

The following table gives the results of the milk examinations during the year:—

Date.	Sample No.	Fat.	Solids not Fat.	Date.	Sample No.	Fat.	Solids not Fat.
Jany. 6	1	3·82	8·78	May 25	53	3·17	9·05
	2	3·17	8·77		54	3·22	8·9
	3	3·58	8·88	June 18	59	2·83	8·30
	4	4·12	8·97		60	3·32	9·14
,, 27	11	3·5	8·97		61	3·47	8·83
	12	3·42	8·96		62	3·50	9·16
	13	3·4	9·2		63	3·15	8·85
	14	3·61	8·91		64	3·05	9·19
	15	4·1	9·33	Aug. 25	69	3·70	8·90
	16	3·11	8·87		70	3·84	8·94
Feb. 17	17	3·99	8·81		71	3·02	8·50
	18	3·68	8·92		72	3·95	9·13
	19	3·4	8·98		73	3·40	8·84
	20	10·9	8·5		74	3·92	8·84
	21	3·44	8·96	Sep. 21	75	4·2	9·1
	22	4·55	8·8		76	3·59	8·88
April 2	29	3·59	7·45		77	3·2	9·28
	30	3·87	8·77		78	3·68	9·22
	31	3·54	9·06		79	3·55	8·64
	32	3·09	8·77		80	5·25	9·41
,, 4	33	4·21	8·70	Nov. 10	101	3·86	8·96
	34	3·27	9·23		102	4·4	9·2
May 25	50	4·47	8·97		103	4·53	9·33
	51	3·13	8·89		104	4·48	8·8
	52	3·25	8·97		105	5·18	9·12

Excluding the abnormally rich sample, No. 20, the average fat content is 3·7 per cent. and of non-fatty solids 8·92 per cent. This is practically the same as last year, and is quite satisfactory, both fats and non-fatty solids being substantially above the legal minimum.

DAIRIES, COWSHEDS AND MILKSHOPS ORDERS.

Work done under those Orders is detailed below:—

Registered cow keepers	16
Inspections of cowsheds	54
Contraventions	7
Contraventions remedied	7
Dairies (including those attached to cowsheds)	47
Dairy inspections (City)	38
Contraventions	3
Contraventions remedied	3
Nature of contraventions in Dairies and Cowsheds—	
Need of limewashing	4
Defective yard drains	2
Defective yard paving	3
Unsuitable premises	1

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912–1917.

Report for the Year ended 31st December, 1925.

1. Milk and Cream not sold as Preserved Cream:—

	(*a*) No. of Samples examined for the presence of a preservative	(*b*) No. in which a preservative was reported to be present.
Milk	50	Nil
Cream	2	Nil

Nature of preservative in each case in column (*b*) and action taken under the Regulations in regard to it .... Nil

2. Cream sold as Preserved Cream:—

(*a*) Instances in which samples have been submitted for analysis to ascertain if the statements on the label, as to preservative, were correct—

(i) Correct statements made 8

(ii) Incorrect statements made .... Nil

(iii)

No. of Sample.	Percentage of Preservative found in each sample.	Percentage stated on Statutory Label.
23	Boric Acid 0·22 %	Not exceeding 0·4 % Boric Acid.
24	,, ,, 0·32 ,,	
46	,, ,, 0·22 ,,	
47	,, ,, 0·35 ,,	
48	,, ,, 0·20 ,,	
49	,, ,, 0·16 ,,	
66	,, ,, 0·31 ,,	
68	,, ,, 0·25 ,,	

(*b*) Determinations made of milk fat in cream sold as preserved cream—

(i) Above 35 per cent. 8

(ii) Below 35 per cent. .... Nil

(*c*) Instances where, apart from analysis, the requirements as to labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the Regulations have not been observed .... Nil

(*d*) Particulars of each case in which the Regulations have not been complied with and action taken Nil

3. Thickening Substances:—

Any evidence of their addition to cream or preserved cream. Action taken where found .... Nil

4. Other observations, if any .... Nil

PUBLIC ANALYST'S REPORT.

The Public Analyst's Report for the year 1925 is as follows:—

Laboratory: Assay Office,
Chester, April 28th, 1925.

To the Chairman and Members of the Public Health Committee.

Sale of Food and Drugs Acts.

Ladies and Gentlemen,

I have the honour to inform you that during the year ended December 31st, 1925, one hundred and twenty samples have been received for analysis under the above Acts.

The following is a list of the articles examined:—

Article.	Total Number Analysed.	Adulterated.
Milk	50	2
Butter	12	1 Boric Acid present in two samples
Margarine	3	Boric Acid present in all.
Cheese	2	
Cream	10	Boric Acid present in eight samples
Lard	4	
Self Raising Flour ...	4	
Baking Powder ...	2	Lead 2·5 and 5 parts per million
Jam	2	
Rice	3	
Condensed Milk ...	4	
Dried Milk	2	
Sweets	6	1/200th gn. per lb of arsenic in one sample
Oranges	1	
Custard Powder ...	2	
Pepper	2	
Coffee	3	
Biscuits	3	Boric Acid present in one sample
Cakes	3	Do. do. in all
Whisky	2	

One of the adulterated milk samples contained 12·4 per cent. of added water. For comparison, two samples were taken in course of delivery, and were of very good quality and indicated a still greater adulteration. The vendor was prosecuted, and a fine of 10s. and costs imposed. The other sample was deficient in fat to the extent of 5·7 per cent., and contained 2·3 per cent. excess of water. All the milk samples were free from preservatives and from dirty sediment; and the quality of the milk for the year is much better than that of the previous year, the proportion of adulterated milk samples for 1925 being 4 per cent. as compared with 18 per cent. for 1924.

The adulterated butter sample consisted entirely of margarine, but as it appeared that the assistant in the shop where the sample was bought had been in error over the margarine labels, the seller was cautioned only.

The preservative boric acid was found in eighteen of the samples examined, or, if the milk samples are omitted as all of them were free from preservatives, 30 per cent. of the other samples contained boric acid. The amount varied from 26 grains down to 3 grains per lb.; it was present in butter, margarine, cream, cakes, and biscuits.

The condensed milk and dried milk were satisfactory, and contained the full proportion of fat and total milk solids.

The self-raising flours contained acid calcium phosphate and sodium bicarbonate; they were free from any trace of arsenic and also from calcium sulphate.

The baking powders consisted of rice mixed with acid potassium tartarate and sodium bicarbonate; both samples contained traces of lead derived from the cream of tartar, but the amount was only 2·5 parts and 5 parts per million.

The custard powders consisted of maize and arrowroot coloured with a non-injurious coal tar dye; they were free from any trace of eggs.

The rice samples were all pure unfaced rice free from steatite. One of the sweet samples contained $^1/_{200}$th grain of arsenic per lb.; all the others were satisfactory, being free from arsenic and poisonous metals, and also injurious dyes.

The oranges were specially examined to see if they had been dyed, but only the natural colour was present (they were blood oranges).

The cheese samples were satisfactory, as they contained over 40 per cent. of butter fat calculated on the dry sample.

The jam samples—strawberry and raspberry—were free from preservatives and from admixture with apple pulp, and also from artificial colouring.

Two samples of rag flock were examined and found to be very satisfactory, as they only contained 4·3 parts and 8·5 parts per 100,000 of chlorine (which indirectly serves as a measure of the cleanliness of the flock), whilst 30 parts per 100,000 of chlorine is the limit allowed.

Yours faithfully,
W. F. Lowe, A.R.S.M., F.I.C.,
City Analyst.

REGISTRATION OF WHOLESALE DEALERS IN MARGARINE AND MARGARINE CHEESE.

The number of wholesale dealers in margarine on the register remains the same as last year—15. The premises are kept in a satisfactory condition.

FRIED FISH SHOPS.

There are 35 premises occupied and used for the cooking of fish and chipped potatoes for sale by retail.

Frequent visiting is maintained during the day, when a thorough examination may be made of the ranges and utensils, and during the evening special attention is paid to the ventilation.

RAG FLOCK ACT.

Two samples of rag flock submitted for analysis contained chlorine equal to 4·3 and 8·6 parts per 100,000, which is well below the prescribed standard.

COMMON LODGING HOUSES.

There has been no change in the number of common lodging houses on the register. The four registered premises contain a total of 27 rooms, and provide accommodation for 145 men. There is no common lodging house for women. The premises were kept throughout the year in a reasonably good condition. In one instance it was found necessary to relay the drains, and in one other to repair the drains and yard surface.

The following is a tabular statement of the work done in the sanitary department:—

Complaints in respect of nuisances	176
Visits in respect of nuisances	2196
Rooms disinfected after infectious disease	309
Investigations *re* infectious disease	195
Matters referred to City Surveyor	27
Tests applied to drains........................	499
Drains found defective........................	256
Drains reconstructed	156
Ashpits abolished..............................	21
Ashbins provided	208
Inspections of courts	221
Inspections of school premises	26
Inspections of stables, etc.	127
Inspections of canal boats	140
Inspections of factories and workshops ...	246
Dairies, cowsheds and milkshops	85
Inspections of slaughter-houses	734
Inspections of butchers' shops	393

Inspections of fishmongers' shops	277
Inspections of other food shops	292
Inspections of offensive trade premises ...	32
Smoke observations	8
House-to-house (district inspections)	179
Visits to common lodging houses...........	18
Dwellings (inspections and re-inspections)	7108

The following notices were served:—

Intimation	394
Statutory	61

Of the statutory notices, 21 were served under the Housing Act, 1925, and 4 under the Rats and Mice (Destruction) Act.

Proceedings were instituted in one instance for failure to comply with a notice for the abatement of a nuisance. The defendant was fined 5s. and ordered to pay the costs.

RATS AND MICE (DESTRUCTION) ACT, 1919.

During the year, 4 statutory notices were served under this Act.

The following table shows the routine work done by the rat-catcher:—

No of Visits.	Method.		Rats Caught.	Date, 1925.
	Traps.	Poison.		
134	109	29	270	January
131	110	33	288	February
136	113	17	337	March
135	99	37	380	April
145	113	18	175	May
155	127	22	185	June
162	141	24	294	July
134	114	18	207	August
103	97	8	221	Septemb'r
120	112	2	338	October
82	61	16	112	Novemb'r
111	99	5	356	December
1548	1305	229	3163	

RAT WEEK, 1925.

During the week ended 7th November, we continued our usual intensive destruction of rats throughout the City. Particular attention was paid to the sewers and those districts in which rats are known to be most prevalent.

We used 112 lbs. of "Dalroc" bait, comprising 2,620 baits, and 46 lbs. of Barium, comprising approximately 31,000 baits. Revisits where baits had been laid showed the poison, in the majority of cases, had been freely taken, and those places have since been again treated.

Notices were placed in the Press inviting the public to co-operate, and traps were loaned and poison given free to any responsible person making application to the Health Department. The Railway Companies were also requested to co-operate by systematic treatment of their buildings, and poison was again supplied to one of the Railway Companies. The public made 39 applications for poison, and 12 for traps. The poison used was harmless to humans and domestic animals.

HOUSING.

Although the year 1925 has seen more building of houses than any year since the war, it cannot be said that there is yet any marked improvement in the overcrowded condition of our population. In 1921, the average number of persons per house was 4·83, and in 1925 it was 4·80. Better progress is, however, being made, and an appreciable lightening of the pressure should be experienced in another year or two. In a report on the housing conditions existing at present, made at the beginning of this year, our requirements were stated to be something over 1,300 houses, and that number is not an over-estimate. If the progress in building which is foreshadowed by this year's progress is continued, a very marked improvement will take place in the next two years. There is at present 272 houses arranged for this year, which is a marked advance on the 49 of last year and none in the year before.

An experiment is to be made in fitting a few houses as semi-electric and fully-electric houses: that is with a single fireplace and without a fireplace. As a contribution to the purification of the atmosphere by the elimination of smoke, it is a step in the right direction, and it is to be hoped that in other respects the experiment will be satisfactory. There are other methods of providing warmth and hot water which might be considered if need be, so as to do more to eliminate the domestic chimney.

During the year, 179 houses were inspected under the Inspection of District Regulations, and records made. Of this number, 13, being in reasonably good repair, did not call for action. Of the 166 remaining, 86 were rendered fit for habitation through informal action, and 18 dealt with under section 3 of the Housing Act, 1925. The repairs in eight houses were carried out by the Local Authority. At the request of the owners, tenders were invited on specifications drawn up by the Health Department, the work being supervised by the Housing Inspector. One closing order was made during the year, the dwelling being a wooden bungalow which was rotted, damp and dilapidated, and without sanitary accommodation. A closing order was also necessary in the case of a two-roomed house—one of four being converted into two four-roomed houses—mentioned in last year's report. It was also necessary in this case to apply to the Magistrate for possession of the house, which will be obtained during the current year.

The total number of houses inspected for defects under the Public Health Acts or Inspection of District Regulations was 881. At the end of the year, 61 houses were receiving attention. Of these, work had been agreed upon and arranged for in 36, and 25 were under consideration of the owners. At the end of 1924, 36 houses were outstanding, and these have been satisfactorily dealt with.

Under the Public Health Acts, 702 houses have been inspected, of which 123 gave no cause for complaint. Intimation notices were served in 179 instances and statutory notices in 36. Informal action resulted in satisfactory restoration to good condition in 359 cases. Of the statutory notices served there were 5 outstanding at the end of the year.

One owner was taken into Court for failing to abate a nuisance arising from damp walls, and he was fined 5s. and costs.

The following tabular statement sets out the housing work done under different Acts or Orders:—

APPENDICES.

HOUSING CONDITIONS.

STATISTICS.—Year ended 31st December, 1925.

1. General.

(1) Estimated population	41,922
(2) General death-rate	13·5
(3) Death-rate from tuberculosis	1·07
(4) Infantile mortality	71·6
(5) Number of dwelling-houses of all classes (1925)	8,678
(6) Number of working-class dwelling-houses	6,283
(7) Number of new working-class houses erected	49

I.—*Inspection.*

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	881
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	179
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	1
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	745

II.—*Remedy of Defects without Service of Formal Notices.*

Number of defective dwelling-houses rendered fit in consequentce of informal action by the Local Authority or their Officers	445

III.—*Action under Statutory Powers.*

A. Proceedings under Section 3 of the Housing Act, 1925:—

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	21
(2) Number of dwelling-houses which were rendered fit—	
(*a*) by owners	10
(*b*) by Local Authority in default of owners	8
(Outstanding 31/12/25)	3

(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declaration by owners of intention to close 1

B Proceedings under Public Health Acts:—

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 215

(2) Number of dwelling-houses in which defects were remedied—

(*a*) by owners 574

(*b*) by Local Authority in default of owners ... ...

(5 outstanding 31/12/25)...

C. Proceedings under Sections 17 and 18 of the Housing, Town Planning, etc., Act, 1909:—

(1) Number of representations made with a view to the making of Closing Orders 1

(2) Number of dwelling-houses in respect of which Closing Orders were made 2

(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit 0

(4) Number of dwelling-houses in respect of which demolition Orders were made 0

(5) Number of dwelling-houses demolished in pursuance of demolition Orders 0

Canal Boats Acts, 1877 and 1884.

STATISTICAL SUPPLEMENT to the (1925) Annual Report of the Chester Urban Sanitary Authority.

Nil Number of Boats added to Register in 1925 ... ...

Nil Number re-registered owing to Structural Alterations ... ...

Nil Number re-registered owing to other reasons ... ...

460 Total number registered to 31st December, 1925 ... ...

153 Total number of Registrations cancelled ... ...

307 Actual number of Boats on Register at 31st December, 1925

140 Number of Boats inspected in 1925 ....
139 Number of Boats conforming to the Acts and Regulations

1 Number of Boats infringing the Acts and Regulations......

Total number for which the Cabins were registered—470.

Total number occupying the Cabins 380

Details of occupation—		
Male Adults	140	
Female Adults	105	
Children of School Age ...	85	
Children under School Age	50	
		380

Details showing Numbers Infringing in respect to:—

No. of Cases met with.			No. of Cases Remedied.
...	...	Registration	...
...	...	Notification of Charge of Master	...
1	...	Absence of Certificate	1
...	...	Certificate not Identifying Owner with Boat ...	...
...	...	Marking	...
...	...	Overcrowding	...
...	...	Partition (Regn. 8, b. ii.)	...
...	...	Females over 12 improperly occupying	...
...	...	Cleanliness	...
...	...	Painting	...
...	...	Ventilation	...
...	...	Dilapidation	...
...	...	Removal of Bilge Water	...
...	...	Without Pump	...
...	...	Refusal of Admittance to Inspector	...
...	...	No proper Water Vessel	...
...	...	Without requisite Double Bulkheads	...
...	...	Non-notification of Infectious Disease	..
...	...	Number of Boats detained for Cleansing (not for I/D)	...
1	Total Cases met with.	Total Cases Remedied,	1

Number of Legal Proceedings taken	...
Number of printed Notice Forms issued	1
Number of Notices attended to	1
Number still corresponding about	...

Table I.—Vital Statistics of Whole District during 1925 and previous years.

YEAR	Population estimated to Middle of each Year	BIRTHS			TOTAL DEATHS REGISTERED IN THE DISTRICT		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT			
		Un-corrected Number	Nett				Of Non-residents registered in the District	Of Residents not registered in the District	Under 1 Year of Age		At all Ages	
			Number †	Rate	Number *	Rate			Number †	Rate per 1000 Nett Births	Number †	Rate
1	2	3	4	5	6	7	8	9	10	11	12	13
1916	39,730	856	856	22·65	742	18·67	107	27	78	91·12	662	16·66
1917	40 718 (B) 40,218 (D)	735	744	18·49	576	14·4	68	69	62	83·3	577	14.4
1918	40,718 (B) 40,218 (D)	744	744	22·65	680	18·67	119	112	67	90·05	673	16·66
1919	42,464 (B) 40,764 (D)	759	759	17·87	562	13·78	97	84	64	84·32	549	13·47
1920	42,571 (B) 42,388 (D)	1072	1091	25·62	543	12·81	94	70	75	68·7	519	12·24
1921	41,407	882	805	21·63	595	14·36	91	81	79	88·26	585	14·12
1922	41,451	897	865	20·86	608	14·66	113	77	68	78·6	572	13·79
1923	41,610	829	800	19·22	600	14·41	132	78	69	86·2	546	13·12
1924	41,932	835	816	19·46	578	13·78	116	115	73	89·46	577	13·76
1925	41,022	860	851	20·30	593	14·12	155	128	61	71·6	566	13·5

Area of District in acres (land and inland water), 2,862.

No. of inhabited houses, 8,678. Average No. of persons per house, 4·80.

* Total deaths occurring in Chester whether of residents or non-residents.

† Births and deaths corrected for those births and deaths properly belonging to Chester, but occurring outside the District, or occurring in the District but properly belong outside.

CITY & COUNTY OF THE CITY OF CHESTER. Table III.—Causes of, and Ages at Death during the Year 1925.

CAUSES OF DEATH.	Net Deaths at the subjoined Ages of "Residents" whether occurring within or without the District,													Total Deaths whether of "Residents" or "Non-Residents" in Institutions in the District.
	At all Ages.	Under 1 year.	1 and under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 10.	10 and under 15.	15 and under 20.	20 and under 35.	35 and under 45.	45 and under 65.	65 and upwards	
All causes { Certified	564	60	17	5	5	4	7	6	6	26	46	175	207	
All causes { Uncertified	2	1	...	...	...	...	...	...		...	...	1	...	
1 Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	
2 Small Pox	...	...	...	..	...	...	...	...	...	...	...	...	...	
3 Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	
4 Scarlet Fever	1	...	...	...	...	...	...	1	...	...	...	...	...	
5 Whooping Cough	11	6	4	...	1	...	...	...	...	...	...	...	...	
6 Diphtheria and Croup	1	...	...	1	...	...	...	...	...	...	...		...	
7 Influenza	8	...	...	...	...	...	...	...	...	1	2	2	3	
8 Erysipelas	1	...	...	...	...	...	...	...	...	...	...	1	...	
9 Phthisis (Pulmonary Tuberculosis)	39	...	1	1	...	1	3	...	1	5	10	14	3	
10 Tuberculous Meningitis	2	...	1	...	...	1	...	...	...	...	...	...	...	
11 Other Tuberculous Disease	4	...	...	...	...	1	...	1	...	2	...	...	...	
12 Cancer, Malignant Disease	64	...	...	1	...	...	...	...	...	...	9	34	20	
13 Rheumatic Fever	6	...	...	...	...	...	...	...	2	1	...	2	1	
14 Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	
15 Organic Heart Disease	72	...	...	...	...	...	...	1	2	1	3	27	38	
16 Bronchitis	51	7	1	1	...	...	...	...	...	...	2	15	25	
17 Pneumonia (all forms)	31	5	7	...	2	...	...	...	...	4	4	5	4	
18 Other Diseases of Respiratory Organs	14	1	...	...	...	...	...	...	...	1	1	9	2	
19 Diarrhœa and Enteritis	6	5	...	1	...	...	...	...	...	...	...	...	...	
20 Appendicitis and Typhlitis	2	...	...	...	...	...	1	...	...	...	...	1	...	
21 Cirrhosis of Liver	...	...	...	...	...	...	...	...	...	...	...	...	...	
21*a* Alcoholism	...	...	...	...	...	...	...	..	...	...	...	...	...	
22 Nephritis and Bright's Disease	14	...	...	...	...	...	...	...	...	...	1	9	4	
23 Puerperal Fever	2	...	...	...	...	...	...	...	...	2	...	...	...	
24 Other Accidents & Diseases of Pregnancy & Parturition	1	1	...	...	...	...	...	..	...	...	...	...	...	
25 Congenital Debility and Malformation, including Premature Birth	20	20	...	...	...	...	...	...	...	...	...	...	...	
26 Violent Deaths, excluding Suicide	20	3	1	...	...	1	...	...	...	3	4	5	3	
27 Suicide	8	...	...	...	...	...	...	...	...	1	2	4	1	
28 Other Defined Diseases	188	13	2	...	2	...	3	3	1	5	8	48	103	
29 Diseases ill-defined or unknown	0	...	...	...	...	...	...	...	...	...	...	...	...	
Totals	566	61	17	5	5	4	7	6	6	26	46	176	207	

Table IV.—Infant Mortality during the Year 1925.

CAUSES OF DEATH	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total Deaths 4 Weeks	4 Weeks and under 3 Months	3 Months and under 6 Months	6 Months and under 9 Months	9 Months and under 12 Months	Total Deaths under 1 Year
All Causes { Certified.	15	4	5	4	28	13	4	8	7	60
All Causes } Uncertified.	1	..	..	..	1	..	..	..	..	1
Small-pox	..	..	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	..	..	..	..	..	..	..	..	..	..
Whooping Cough	..	..	..	..	..	2	..	3	1	6
Diphtheria and Croup	..	..	..	..	..	..	..	..	..	..
Erysipelas..	..	..	..	..	..	..	..	..	..	..
Tuberculous Meningitis	..	..	..	..	..	..	..	..	..	..
Abdominal Tuberculosis (*b*)	..	..	..	..	..	..	..	..	..	..
Other Tuberculous Diseases	..	..	..	..	..	..	..	..	..	..
Meningitis (*not Tuberculous*)	..	..	..	..	..	..	..	..	..	..
Convulsions	1	..	..	1	2	..	1	2	2	7
Laryngitis..	..	..	..	...	..	..	..	..	..	..
Bronchitis..	1	..	..	..	1	4	1	..	1	7
Pneumonia (all forms)	..	..	1	1	2	..	..	1	2	5
Diarrhœa	..	..	..	..	..	..	..	..	..	..
Enteritis	..	..	..	..	..	2	1	2	..	5
Gastritis	..	..	..	..	..	..	..	..	..	..
Syphilis	..	..	..	..	..	..	..	..	..	..
Rickets	..	..	..	..	..	..	..	..	..	..
Suffocation, Overlying	..	1	..	..	1	..	..	..	..	1
Injury at Birth	2	..	..	..	2	..	..	...	..	2
Atelectasis..	..	..	..	..	..	1	..	..	..	1
Congenital Malformations (*c*)	1	1	1	..	3	..	..	..	..	3
Premature Births	9	1	2	1	13	..	..	..	..	13
Atrophy, Debility and Marasmus	..	..	..	1	1	4	..	..	..	5
Other Causes	2	1	1	..	4	..	1	..	1	6
Totals	16	4	5	4	29	13	4	8	7	61

Nett Births in the year, legitimate, 812 ; illegitimate, 39. Nett Deaths in the year of legitimate infants, 60 ; illegitimate infant, 1

Administration of the Factory and Workshop Acts, 1901 & 1907

IN CONNECTION WITH

Factories, Workshops, Laundries, Workplaces, and Homework.

1. INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises. (1)	Number of Inspections (2)	 Written Notices (3)	 Prosecutions (4)
Factories (including Factory Laundries) ...	82	6	—
Workshops (including Workshop Laundries) ..	139	9	—
Workplaces (other than Outworkers' premises)	25	—	—
Total	246	15	--

2. DEFECTS FOUND.

Particulars. (1)	No. of Defects. Found (2)	 Remed'd (3)	 Referred to H.M. Inspect'r (4)	Number of Prosecutions. (5)
Nuisances under the Public Health Acts—				
Want of Cleanliness	3	3	—	—
Want of Ventilation	2	2	—	—
Overcrowding	1	1	—	—
Other Nuisances	9	9	—	—
Sanitary accommodation { insufficient	1	1	—	—
unsuitable or defective ...	8	8	—	—
not separate for sexes ...	2	2		
Offences under the Factory & Workshop Act :				
Other Offences	13	13	—	—
Total	39	39	—	—

OUTWORK IN UNWHOLESOME PREMISES.

Section 108.

Nature of Work. (1)	Instances. (2)	Notices Served. (3)	Prosecutions. (4)
Wearing Apparel.—			
Making and C.	1	1	—
Cleaning and Washing	—	—	—